

CH 22, 1862.
AND CO.
IN STREET, LONDON.



The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1388.—VOL. XXXII.

LONDON, SATURDAY, MARCH 29, 1862.

STAMPED.....SIXPENCE.
UNSTAMPED.....FIVEPENCE.

JAMES CROFTS, SHAREBROKER,
No. 1, FINCH LANE, CORNHILL. (Established 17 years.)
Transacts business, in the way of PURCHASE or SALE, in every description
of stock, but particularly in BRITISH MINES, in no case departing from the position
of a broker, at net prices. All orders meet with the utmost punctuality and
service given as the nature and eligibility of INVESTMENTS, when required.
QUOTATIONS OF STOCK effected on the most advantageous basis, subject only to one
per cent. commission.

ER of Bedford Consols, Caradon Hooper, East Carn Brea, Tincroft, East Russell,
Lambert, Tolvadden, Ludcott.
ER of Santa Barbara, Old Tolgus, Great South Tolgus, Treliweth (an offer),
Tolweth, Marke Valley.
* BUYER or SELLER of Mount Pleasant.

1862.

JAMES LANE, No. 44, THREADNEEDLE STREET,
LONDON, E.C.

AND OTHER PURCHASES
OF ENGINEERS, ETC., LONDON.
MANUFACTURES OF ENGINEERING
HARDWARE, ETC., LONDON.
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HARDWARE, ETC., LONDON.

ACK AND SHAREDEALER.—MR. PETER WATSON,
LONDON AND FOREIGN STOCK, SHARE, and MINING OFFICES, 79, OLD
BROAD STREET, LONDON, E.C.

JOINT-STOCK BANKS, DOCK, INSURANCE, CANAL, MINING,
SHIP, ETC., AND EVERY OTHER DESCRIPTION OF SHARES BOUGHT AND SOLD
AT NET PRICE, OR WITH COMMISSION, OR AT NET PRICE.

able messages to buy or sell Railway, Bank, Mine, and other shares and stocks
especially suited to combination, or at net prices, for cash, or for fortnightly settle-
ment with advice as to purchases or sales.

Years past.—Banks: Union Bank of London.
Information can be obtained, on personal application or by letter, as to purchases
of mine and other shares, and the best investment for capital.

the close proximity of his offices to the Stock Exchange, as well as the Mining
Banks: Peter Watson is enabled to act with promptitude on all orders entrusted to
him at all times are carried out with punctuality, and to the best advantage of
those who are BUYERS of Vigras and Clogau Gold Mine, and solicits an OFFER for

Frances.

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GEORGE MOORE,
1, CROWN COURT, THREADNEEDLE STREET.
In any business that GEORGE MOORE is favoured with, in which he is the buyer, he
will give CASH ON RECEIPT OF TRANSFER.

Money advanced on rubbish, as usual.

JAMES HERRON has FOR SALE the following SHARES, at
the prices quoted, and FREE OF COMMISSION:—

1 Bryn Gwlog, £28 1/2.
30 Bottishill, 10s. 9d.
2 Brynford Hall, £6 10s.
4 Billins, £1.
1 Bassett, £98 1/2.
50 Butler and Bassett.
1 Buller, £63.
20 Brecknock Iron & Coal
Company.
30 Charlotte United, 15s 3d.
30 Cwm Brane.
5 Clifford Amalgamated,
£31 10s.
5 Cob, £22 17s. 6d.
5 Cook's Kit, £32 18s. 9d.
1 Copper Hill, £97.
3 Calvadnack.
2 Carn Brea, £70.
1 Conduor Hill, £58 1/2.
5 Cardon Consols, £10 1/2.
1 Craddock Moor, £30 1/2.
30 Carnarvon, £15 1/2.
100 Cobre, £22 17s. 6d.
5 Ding Dong, £8 1/2.
50 Dale, 10s. 9d.
1 Devon Gt. Con., £11 1/2.
5 Dyngwyn, £9.
20 East Russell, £3 1/2.
5 East Cardon, £33 6s 9d.
1 East Caron, £22 17s. 6d.
1 East Bassett, £42.
30 East Abramson, 39s.
50 East del Rey, £1 12s. 6d.
50 East Seton, 7s. 6d.
50 East Clogau.
2 East Tolgus.
1 East Daren, £4.
20 Fortune.
3 Grambler, £14 3s. 9d.
2 Gt. Fortune, £20 3s. 9d.
5 Great South Tolgus, £23.
50 Great Alfred, 8s.
10 Garliden (other wanted).
2 Adam's court, Old Broad-street, March 28, 1862.

MESSRS. VIVIAN AND REYNOLDS, 68, OLD BROAD
STREET, LONDON, E.C., MINING ENGINEERS, INSPECTORS OF MINES,
COMMISSION, and GENERAL AGENTS for the PURCHASE or SALE of MINE
SHARES, RAILWAY, and EVERY OTHER DESCRIPTION of STOCK.

Commission on share transactions 1/4 per cent. on £100 and above, and 1/4 per cent.

ESTMENTS IN CORNISH MINES.—
Mining Stock Market during the past week has shown decidedly more
and it is generally believed that the standard for tin and copper ores has seen
a favourable reaction, which will be exceedingly cheering to investors in
the following mines, viz.:—Rosewall Hill and Ransom, Drake Walls, East
Rowans, and several others to which I have frequently called attention, and, I may
hastily add, before my subscribers and clients in my "WEEKLY CIRCULAR" and
"WEEKLY CIRCULAR" for several months past.

this week a list of sixteen mines, which, on a reference to my "WEEKLY CIRCULAR" and
"WEEKLY CIRCULAR" for March 28, 1862, my subscribers and clients will find I have during the past six
months constantly and strongly recommended for investment and for a great
value. It is pleasing to find that my predictions have been in each case
and I find, as will be seen from the statement given below, that the total rise
of these mines is no less a sum than £203,722 10s.

recommended in Peter Watson's "WEEKLY MINING CIRCULAR AND SHARE LIST,"
1861, to March 13, 1862:—

MESSRS. BATTERS has SPECIAL BUSINESS in the SHARES of
EAST CARADON, MARKE VALLEY, BILLINS, and EAST CARN BREA.

MR. BATTERS is a BUYER of ONE HUNDRED EAST
CARN BREA SHARES at £12 1/2, or a SELLER at £12 1/2, and strongly re-
commends immediate purchases.

JOHN RISLEY, SHAREBROKER,
22, LOMBARD STREET, LONDON, E.C.

WILLIAM SEWARD, MINING BROKER, STOCK AND
SHAREDEALER, 26, THROGMORTON STREET, LONDON, E.C.

Commission, 1/4 per cent. on £100 and above, and 1/2 per cent. on less sums.

MR. H. WADDINGTON, MINING AND SHAREBROKER,
74, OLD BROAD STREET, LONDON, E.C.

MINING SHARES BOUGHT AND SOLD at the usual commission. RAILWAY,
BANK, and OTHER SHARES at Stock Exchange rates.

H. WADDINGTON would call the attention of all who speculate or invest in mines to
Wheat Uny, the cheapest (intrinsically) at the present price of any of the western mines.
Read the agents' reports, who are not influenced by market operations, but speak can-
didly their opinions, and corroborated by their returns.

N.B.—Agents are not refused orders of inspection.

MR. E. GOMERS, MINING OFFICES,
3, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C.

BUSINESS TRANSACTED in BRITISH and FOREIGN STOCKS and SHARES.

Mr. Gomers is a BUYER of—
10 North Downs, £4 13s. 9d.
50 North Robert, 17s. 6d.
25 E. Wheal Russell, £25 1/2.
And is a SELLER of—
50 Sortbridge, 10s.

Mr. Gomers is a seller of any part of 50 or 100 West Condurrow, time on, at £1 per
share.

There is at the present time one or two mines, the shares in which are quoted in the
daily and weekly press, such quotations apparently emanating from the Mining Market,
although, so far from this being the case, if there is, or has been, any dealing price, it has
been considerably below the quotations given. I may mention, as an instance, West
Condurrow, which, in my opinion, had the slightest caution been used by those led to
purchase hasty by means of the quotations and advertisements, they might have saved
at least half the purchase-money. This system of putting a property in difficulty may
suit those interested, and enable them to get out at the expense of the ignorant, who will
nearly pay for their bargain, but does not tend to the general welfare of mining, and, I
trust, that my friends and the public will ascertain for themselves the *bona fide*
of any adventure brought to their notice previous to speculating, for in the instance
named I am afraid that it will prove a loss.

Terms, 1/4 per cent.—Bankers: London and Westminster Bank.

MESSRS. HADKINS AND CO., COMMISSION AGENTS, of
43, MARK LANE, have at all times an opportunity of negotiating for EVERY
DESCRIPTION of DOCK WARRANTS and RAILWAY SHARES, and are in a position
to obtain the most RELIABLE INFORMATION respecting all DIVIDEND and
PROGRESSIVE MINES.

Messrs. Hadkins and Co. have business in—
North Downs.
North Robert.
Worthing.
Devon Great Consols.
Cook's Kitchen.
West Condurrow.

Two the latter mines they particularly recommend for a great and immediate rise.
N.B.—Messrs. Hadkins and Co. impress upon their friends that they do not deal in
mining shares on their own account, consequently they are at liberty always to act for
the benefit and interest of their clients.

WANTED, a COPY of the MINING JOURNAL posted the
DAY AFTER PUBLICATION.—Address, Box 144, Post-office, Wisbeach.

MESSRS. T. P. THOMAS AND SON, MINING AGENTS,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

SALE OF MINING SHARES BY PUBLIC AUCTION.

MR. T. P. THOMAS WILL SELL, BY PUBLIC AUCTION,
at Garraway's Coffee House, Change-alley, Cornhill, London, on THURSDAY,
April 10, at Half-past One o'clock precisely, the following VALUABLE MINING
SHARES, viz.:—

332 Kelly Bray (forfeited).
For particulars and conditions of sale apply at the office of the Mining Journal, 26,
Fleet-street; at Garraway's Coffee-house, Change-alley, Cornhill, London; or at the
offices of the auctioneer, 2, Crown-court, Threadneedle-street, London, E.C.

Persons desirous of offering shares must give notice of the same to the auctioneer, at
his offices, 2, Crown-court, Threadneedle-street, E.C., previous to the 3d of April,

1862.

MR. T. P. THOMAS has been favoured with instructions to SELL,
BY PUBLIC AUCTION, at Garraway's, on Thursday, the 10th of April, at
One o'clock precisely, TWO THOUSAND SHARES in WHEAL POLLARD MINE, in
lots of 10 to 100 shares.

The mine situate in the Caradon district, and has several productive ledges passing
through it. All requisite pumping machinery has been erected, and it is considered by
good authorities to be a first-rate speculation. A large amount of money has already
been expended, but as some of the shareholders have declined to lay out more, it is
thought advisable to bring new blood into the concern by selling these shares, and par

Original Correspondence.

PERMANENT RELIEF FUND AGAINST ACCIDENTS IN COLLIERIES, &c.—No. II.

SIR.—In the propositions I am going to submit to public examination, I hope to receive the benefit of all doubts that may arise with respect to the "facts and figures, reasons and principles," necessary to be given in explanation of the extensive and important business in view: at least, I ask this favour to be granted until time and opportunity be allowed me for clearing up such doubts or denials; for, on a subject with so many ramifications and new points for consideration, it is no easy matter to explain its peculiar features and bearings, so as at once to carry conviction of its benefits (and great and numerous they truly are) to the entire satisfaction of all minds. This is a claim which every person submitting original propositions to public investigation and support has a fair title to request and expect.

The foundation upon which to institute the proposed "GENERAL AND PERMANENT RELIEF FUND" to be as follows:—

1. Coalmasters to contribute 4d. per ton of coal raised by them.
2. Colliers to also contribute 4d. per ton raised.
3. Labourers, hauliers, &c., 4d. per ton raised.

4. Lords and ladies of manors, and others claiming a right to work, or to depute others to work, coal and other minerals from beneath the surface of their lands, also to contribute 4d. per ton of coal raised (we will leave all other minerals out of the question for the present). These contributions (which in the aggregate would be seven-eighths of a 1d. per ton of coal raised) to constitute the "BENEVOLENT FUND" in question; or a gross aggregate sum upon the 84,000,000 of tons of coal annually raised in the United Kingdom of 306,750. Here, so far as truth in figures go, we should leave an ample fund to meet all possible claims for relief and compensation in all cases of colliery accidents throughout the entire country; and to these "contributions" I fancy myself able to prove that no reasonable objections can be opposed by any of the four parties above-mentioned, or by the public either.

1. With respect to coalmasters. This 4d. per ton of coal would be the means of exonerating them from the heavy charges inflicted upon their working capital, when accidents happen to all or any of their workmen; which often (as, for instance, at Risca) extends to thousands of pounds. Hence no reasonable objections to this 4d. per ton of coal could exist on the part of coalmasters; for they would have more than an equivalent in the saving of expenses (exclusive of moral claims) incidental to accidents to persons in their pits and levels, which, in extensive collieries, are continually happening.

2. The contribution of 4d. per ton of coal from the colliers would be far more than met by the instant relief and compensation they and their families would receive on accidents of any kind happening to them; but in addition to these benefits, each individual collier would be relieved of the usual deductions made from his earnings for "Doctor and Casualty Fund," which often amounts to more than 4d. per week; hence these parties would have for their 4d. contribution much more than an equivalent return.

3. With respect to labourers, hauliers, and others engaged about collieries, they would have for their one-eighth of a penny contribution all the advantages of a working collier and his family, and also be exempt from the usual payment to the "Doctor's Fund," which would be a considerable gain to them severally: hence we should have no complaint from these parties on account of the new arrangement herein proposed.

4. With regard to the farthing contribution from lords of manors, and others claiming a right to minerals under the surface of their lands, to correctly understand this point it may be necessary to state that those parties claim what they term a *royalty* upon all minerals raised from beneath the surface of their several manors and lands, the amount of which charge fluctuating from 4d., 6d., 8d., 10d., and 1s. per ton of coal, and more or less for other minerals, according to their market value; these other minerals, however, I will leave out of the question for the present. Now, this charge by *lords of manors*, if not by *freeholders*, has no support, so far as I have been able to learn, from either law or equity, for it is, in fact, a mere usurpation, which has been growing quietly, and by small degrees, ever since the time of Henry II., when the people about Newcastle petitioned that monarch for leave to dig for coal in their locality, the right to all minerals beneath the surface of the land and waters being a ROYAL PREROGATIVE, a right inalienable, and not to be lost by lapse of time; hence this *untransferable national right* cannot legally be claimed by any other person or party in this country than the kings or queens of England for the time being, or by their representatives specially and royally appointed for national purposes. From this it would clearly appear that these charges by lords of manors and others, for a royalty on minerals is, as above stated, a mere usurpation; indeed, the very term *royalty* is fatal to all claims of the kind, all such claims being the prescriptive rights of the king or queen alone, as aforesaid, or of a commission specially and royally appointed to act for them. Again, all manorial rights (and in reason, all freehold rights also) are, and were, limited to the *surface only* of the respective manors and lands, except that of raising stone, sand, clay, and lime, for building purposes; which surface rights were, in troublous times, granted to powerful lords and barons for "suit and service" to the paramount lord or lady, the king or queen of the land. From the foregoing facts and reasonings, I arrive at the conclusion that all these claims for a royalty on coal and other minerals by private individuals are of a more than doubtful character, and, therefore, consider it neither unjust or unfair to require these lords of manors and freeholders to contribute out of their questionable royalty charges on coal 4d. per ton towards instituting and maintaining the "Benevolent Fund" above mentioned; indeed, were the contribution put at a *halfpenny per ton* of coal, there could be no reasonable ground of objection for these parties, since it would be only a refunding of an over-charge upon a material for which no *equivalent had been given*, and, consequently, the proposed contribution of 4d. per ton of coal would be no tax or impost upon the powerful and influential parties here referred to.

Thus may a large annual sum be raised, in the most unobjectionable manner, for the beneficial purposes herein contemplated; but to effectually carry out the affair a short Act of Parliament would be necessary, not to levy a tax on any article or individual whatever, but simply to modify existing charges on the raising and working of coal, and collecting and appropriating such charges to ameliorate the losses and sufferings of thousands of poor and innocent people when similar accidents occur as those at Hartley, Merthyr, Risca, Coed Cymmer, and Lundhill—accidents by which it is confidently stated 1000 men, in the prime of their lives and strength, are annually sacrificed in fulfilling their duty to the country and their families, and by which probably 5000 persons are plunged into poverty, grief, and destitution. Under these circumstances there can be no plausible objections to the modification of the charges on the working of collieries herein proposed, started by the parties immediately concerned; and as regards the public, not a syllable can be said on the subject in dispraise of the arrangements in question: but, on the contrary, the general community would, on the permanent establishment of the "Benevolent Relief Fund," be exempt from the many urgent calls upon its sympathy and purse for relief on repetitions of the serious and melancholy accidents in coal mines we so often have experienced, and are, unfortunately, so liable to experience in the future.

There is one point with respect to royalties on minerals that may be mentioned to show the difference between the liberality of the *Crown* and the tyranny of *usurers*; it is this—the Queen holds her just right to all the minerals in the Forest of Dean, Gloucestershire, and the royal charge is only one penny per ton of coal raised from the mines of that district of country, whilst *lords of manors* and *freeholders* have the conscience to charge, under the assumed and surreptitious name of a *royalty*, 4d. to 6d., 8d., 10d., and 1s. per ton for a like quantity of coal worked from beneath the surface of their respective manors and lands. However, only let them contribute the proposed farthing per ton to the "GENERAL PERMANENT RELIEF FUND" herein described, and they will hear no more from me touching their "usurpations."

Here I will wait a time, to give opponents to the proposed "modifications of the charges upon the working of collieries" an opportunity to state their objections thereto. I think I have sufficiently explained the business, at least the *principles and outlines* of it, to enable all persons conversant with colliery operations to arrive at fair and just conclusions on the subject. If the question be thoroughly and dispassionately discussed in your truly liberal Journal, and any probability should arise of its being put in operation, or taken under more powerful or favourable auspices, all necessary particulars with regard to its proper and efficient organisation, including other desirable arrangements that would naturally spring out of it, shall be fully explained; but if this truly important affair be suffered to die of mind, like a tale that is told for mere amusement only, or "a nine

days' wonder," it would be folly on my part to waste more "midnight oil" in attempting to push the matter further, and on your's also to give publicity to the IDEA referred to, although IDEAS are often (like young bairns when they come into the world, "helpless, naked, and bare") found to be "pearls beyond all price," for they are the gems, the fathers, as it were, of *great facts and principles*, which when duly nurtured and carried out, become the *institutions of a replenished and civilised world*;" "institutions" that give life and power to human society, and by their operations and influence afford health, peace, prosperity, and happiness to millions of people.—Newport, Mon., March 26. S. B. ROGERS.

THE NATIONAL ASSOCIATION FOR THE RELIEF OF BRITISH MINERS.

SIR.—In last week's Journal there is a letter, signed "S. B. Rogers," in which reference is made to a communication that appeared in your previous Number, signed "G. B. S." in the following words:—"S. B." likewise refers to a "rather" awkward affair relating to "the National Association for the Relief of British Miners," which has received 292. 6s. 2d. for the Hartley Fund, which has not been handed over to the committee; and it is complained that even the 50 guineas which the promoters of the association offered to subscribe has not yet been paid to the Hartley Fund. Will you permit me to give this statement an emphatic denial? The 50 guineas to which reference is made was paid by me into the bank of Messrs. Lambton and Co., Newcastle-on-Tyne, on Jan. 27, to the credit of the Hartley Fund, and my cheque was duly honoured on the 30th of the same month through Messrs. Barclay and Co. In addition to this, instead of 292., there has been paid to credit of the Hartley Fund, on behalf of this association, a sum of upwards of 360., making a total of 411. I trust after this explanation, which can be fully verified to the satisfaction of "G. B. S." or Mr. S. B. Rogers, there will be no repetition of a slander which these gentlemen have, I hope unwittingly, helped to circulate. I may add that, if either of your correspondents will refer to the *Newcastle Northern Daily Express* of the 5th and 14th inst., they will find the question fully dealt with there. Further, not one of the gentlemen attached to this association has either received or asked a single shilling for arduous services performed from its formation to this day. On the contrary, nearly 300. has been expended in the promotion of the undertaking by myself alone.—March 26. HADDOCK DENNYS, Sec.

UNDERGROUND AIR-DOORS.

SIR.—While underground, the other day, it occurred to me whether one of Brabson's patent door springs (used so commonly in public buildings) could not be attached to air-doors. I am sure if properly put on they would tend greatly to relieve the anxiety respecting the liability of air-doors being left open; and to such causes I am afraid a great many of those appalling accidents must be attributed. The cost cannot be any excuse, while the putting them on can be done by any common labourer. I am not sure this has not been attempted before; but as I think it is worthy of a trial I have ordered one to be put in use to try the experiment, and will let you know the result.—Ystalyfera Ironworks, March 27. ROBERT C. FISHER.

SIMPLE DRAWING TACKLE.

SIR.—Your correspondent, "X.," seems either not to understand my object, or is not thoroughly acquainted with the mode of working metallic mines. Supposing a mine to be working on trial where there was no adit, and only one small shaft, and that sunk on the course of the lode at an underlie, say, of 2 feet per fathom, and it being essentially necessary for the drainage of such shaft to have a lift of pumps put in the shaft for pumping out the water, so that there would only be a small portion of the shaft left, just sufficient for one kibble or skip to work in, to draw the stuff from the mine, it would be difficult to draw with a horse-whim, as there would not be room for two kibbles to pass each other, and a horse could not draw with only one kibble; but there being a small stream of water that can be brought into the mine, at an elevation of 60 to 70 feet, but not sufficient to pump and draw the stuff, yet more than sufficient for pumping purposes. Now, it seems to me the question at issue is, in what way can this small stream of water be applied for drawing the stuff from the mine on the most economical principles? The plan I propose has already appeared in the Journal, and I think it will be found to overcome the greatest difficulty where circumstances oblige any one to have the whole of the motive power, drawing tackle, &c., at the surface. Your correspondent suggests a balance-chain to wind round the axle of the shiefe: this is very good where there is room for it to work up and down the shaft, so as not to get entangled in the drawing-chain, &c. I stated in my letter which appeared in the Journal of the 8th inst. that where two or more shafts were in a mine they might be made available for working balances, whereby the ascending and descending of the kibble could be conducted with more regularity: could your correspondent point out any better plan than the one I laid down for drawing with an incline-plane, and where all the tackle must be at the surface, it will be thankfully received.

A friend of mine suggested the use of an hydraulic engine, and he thinks it would require less water than an incline-plane. Not being acquainted with hydraulics, I cannot form an opinion; perhaps some of your readers would be kind enough to answer this question? ROBERT SANDERS.

P.S.—Your correspondent, in his letter of the 15th, says that by filling the two boxes at the top of the incline, and the small one discharging its water when halfway down, will involve the loss of half the water. I beg to inform him that he is labouring under an error in that respect. Suppose it were necessary to fill the large box with water to start the kibble from the bottom of the shaft; but if, instead of doing so, you put one-third of the water in the small one, so as to answer the same purpose; by the time the small box gets to its discharging point there will be a great weight of chain drawn out of the shaft, and a corresponding weight gone down the incline; these two put together will more than make up for the weight of water in the small box; so that with the weight getting less in the shaft, and getting more on the incline, this water would not be required to draw the kibble the remainder of the distance. On the other hand, if the whole of the water had been in the large box, it must descend with it to the bottom, consequently cause a great strain on the break. The only water wasted by a double incline over a balance working in a shaft, is the small quantity required to start the larger truck from the bottom and send the kibble down. He suggests a cycloid incline; but how will he keep the water in the box, if the box and water are level? When going down the steep part of the incline, it must necessarily follow that when the box gets down on the more horizontal part the water will run over the end nearest to, the top of the incline, which I should consider very objectionable. R. S.

IRON-MAKING IN MONMOUTHSHIRE AND SOUTH WALES.

SIR.—In the Journal of the 15th inst. there is a letter from one of your old and respected correspondents, headed "An Opening for the Ironmasters of Monmouthshire and South Wales." The spirit of this letter would fain make one believe that there are only six or seven ironworks in the kingdom capable of producing soft, tough, hammered iron, fitted for shielding ships and batteries from the destructive effects of Armstrong guns. I do not at all call in question the object of such a communication: it is in keeping with the spirit of the times—that is, let everyone "draw grist to his own mill," if he can, but do not do it at the expense of your neighbours, if you can help it, for they may be as deserving of Government patronage as yourself, keeping greed and injustice in the background. I have great respect for the author of the most practical work on Iron Smelting which we have in print, but that will not deter me from expressing my honest opinion when I think he is in error. I think he was amongst the first men of his age to advocate, in the most plain and straightforward manner, the application of science to aid the practical smelter of iron in carrying on his processes to successful results, and yet at this day he seems to think, and even says, it is necessary to go back nearly half a century to obtain an effectual method of making soft, tough, hammered iron. Now, this does not speak much for modern improvement, or for the sound principles laid down in Mr. Rogers's book on Iron Smelting. In that work it is clearly and distinctly laid down, that whilst managers and conductors of iron smelting are guided solely by rule of thumb there is but little hope of progress in iron metallurgy. Half a century ago the practice of iron smelting, and, in fact, every other kind of smelting, must have been a great deal more in the dark than what it is now; yet it seems, however primitive must have been their modes of making iron, that we must retrace our steps and confess our ignorance. Is your correspondent in earnest, or is he merely cajoling the old obstructives, otherwise "rule of thumb" regime? We would fain believe that the latter is his *ironical* aim. We presume that those works which he has been honest enough to put forward as the

ne plus ultra of iron-producing establishments never made any red *short, solid short, white, or mottled iron*; and that they have always kept hot and nob with number one; if so, why need go back half a century to make the required quality? Perhaps "Tis distance lends enchantment to the view." Are there any more deteriorating elements in iron ore now than what were in them half a century ago? We think not. Are we to suppose that because a train runs off the line of rail, whereby a few are inconvenienced by broken heads and bruised limbs, that we must go back to the days of the old Jehus, in order to be taken easily on our journey? No; we cannot afford such a sacrifice as that would involve. We must rather find out the why and the wherefore; that is the most rational method of proceeding in the nineteenth century, according to the principles laid down by Mr. Rogers in his book on Iron Smelting. CLOVER.

IRON AND STEEL—"BESSEMER'S" PROCESS.

SIR.—As I always find your Journal asserting the justice of the principle *sum cuique* in patent rights, I venture to offer you the following observations. From time to time Mr. Bessemer favours the public with a *compte rendu* of what he calls the progress of "his" process, with his latest improvements, the quality of the products, their applicability in the arts, the tests they have undergone, &c. Being interested as a manufacturer in ascertaining what "progress" had really been made in a method of making iron and steel, which at first made so much noise in the world, but seemed after all to have "gone up like a sky-rocket, and come down like the stick." I turned first to Mr. Bessemer's original specification for my starting point of information. I there found that the *essence* of his claim lay in the *peculiar apparatus* by which he forced atmospheric air through a bath of molten iron. In order to define as exactly as possible the limits of priority, I next turned to Mr. Martien's specification on a similar subject, of date prior to Mr. Bessemer's, and I there found that Mr. Martien's claimed "for the forcing of air through a metal bath, passing in a current through a gutter," and as he did not limit himself to any peculiar velocity, it is presumable that he was at liberty to stop this current at will, without straying out of his invention; in which case it clearly becomes an ordinary stagnant metal bath. If he did so limit himself, it must have been by an extraordinary blunder of his patent agent, but *this would not render the blowing of air through molten metal the invention or the property of Mr. Bessemer*. It cannot be disputed that Mr. Bessemer's vessel was a great step in advance of Mr. Martien's, but there was one great imperfection in it—from the moment of the introduction of the hot metal all control over the operation, except as to the time, was at an end; it could not be stopped, to allow an examination of the state of the metal, without allowing the latter to rise in the tuyeres, and so to destroy the vessel itself. This is now corrected: Mr. Bessemer is using a fire-clay pipe, which dips from above into the metal, being unconnected with the vessel, and removable at will, thus giving the command of the operation. But this modification (and its importance is obvious) is due not to Mr. Bessemer but to Sir Francis Knowles, who made it the subject of his patent (No. 245, Oct. 20, 1856). The operative words are "the adaptation of pipes in the interior of the furnace or kiln, which commencing at the top thereof descend nearly to the bottom, where they are open, so as to admit of the metal rising within them when the furnace is filled with it in its hot and liquid state. These pipes are to be made of good fire-clay, and to their tops are to be fitted closely the blast-pipes of the blowing-engine." I am given to understand that the object of this patentee was not to monopolise the invention so much as to prevent others from doing so by the publication of it, for he is much too practical a metallurgist to think of converting one part of his metal by burning 20 to 25 per cent. of the whole, even for seed. Again, Mr. Bessemer states more particularly as to his experiments in Sweden, that he uses *nitrate of soda* in his manufacture of steel. Without enquiring too nicely in such case how much of the process of purification is due to the air-blast, and how much to the oxidising power, and the reactions brought into play by the salt; or observing that it is pretty well established now by Messrs. Binks, M. Frémy, and others that steel cannot be made without the presence of *nitrogen*, I must in justice again point out that this use of "nitrate of soda" is due also to Sir Francis Knowles, and forms the subject of his patents, but I do not find that Mr. Bessemer makes even the slightest allusion to this indisputable priority more than to the former. Mr. Bessemer (if I am rightly informed) will live to learn that *this chemical application is like the bow of Ulysses, which none but its master could bend!*

We, therefore, come down at last to this combination, as what Mr. Bessemer calls *his process, after wholly abandoning his original vessel*:—1. An invention of Mr. Martien's, "the blowing of air through a metal bath upwards";—2. Two inventions of Sir Francis Knowles, the use of the "dipping tuyere of fire-clay" and of "nitrate of soda" as a purifier. Now, I ask any the merest tyro in patent law whether Mr. Bessemer can claim any monopoly in this combination, or any originality of invention whatever? He has abandoned practically his *only* original invention—his converting vessel. As to the few mechanical contrivances of detail, for making convenient adjustments in his *application* of the above processes, they are long ago in the domain of the public, and cannot form the subject of patent rights.

The celebrated Martinus Scriblerus in his memoirs tells us that he became a very difficult question to determine whether a worsted stocking which had been in substance all daared away by repeated darnings, still preserved its identity, continuing to be the *same* stocking. But what would that learned logician (and lawyer) have said if the original stocking belonging to one person, and the various worsted of the successive darnings belonging to others, the question had been raised "in whom was vested the ownership of the stocking?" This question Mr. Bessemer would soon to have solved (*more suo*) by very unscrupulously appropriating the whole. I leave him to settle accounts with the respective owners of "the worsted" I all say is that I believe that neither against them nor against the public can he claim any monopoly whatever. But, I am pretty clearly of opinion that what he is doing is open to any one (subject to adverse patent claims) to do, if it be worth while to do it.

Mr. Bessemer may be a very ingenious man, but I fear his ingenuity is rather too much displayed in what is called in homely phrase, "Cutting thongs out of other people's leather." It is reported that when he first began to make steel very little of it would "draw clear," but when the "nitrate of soda" was used, as in the Swedish operations, the steel worked well. Allowing something for the use of metal free from sulphur and phosphorus (which the air-blast does not remove), it would be satisfactory to learn what is the difference when the nitrate of soda is absent? In the accounts of the Swedish experiments, the use of this salt is very modestly named "a little nitrate of soda" (*par exemple*)!

GOLD DISCOVERIES—REDUCTION OF GOLD QUARTZ.

SIR.—It was not my intention to notice the observations and discussions which have lately appeared in the *Mining Journal* with reference to gold extraction, &c., inasmuch as they have evidently emanated from parties who have had but little, if any, practical experience in the business. Some time ago the readers of the *Journal* were told in the most positive manner that a discovery was made by which ten times the quantity of silver could be obtained from the ore than that indicated by assay, and many were weak enough to believe it. What has been the result? I do not come forward to warn the public to be on their guard, so as not to be caught by these visionary schemes, but merely to correct some of the statements made by your correspondents with regard to the gold discoveries. As the system of extraction, &c., adopted in America and Australia, is the whole subject has been well explained in a series of papers in the *Mining Journal* since 1848, but it may not be convenient to refer to them; therefore, I shall take the liberty of making a few remarks.

Mr. Leicester states in his last communication that in Mexico the system of extraction in use is what he calls pulp-amalgamation, and is treated by mules, &c. Your correspondent confounds the system of Pato amalgamation for extracting silver with the gold-reducing process. In America they extract gold both from pyrites and from quartz by mechanical means, and without quicksilver. The pyrites residue is treated over and over again until it is consumed. The quartz residue, if it contained 3 dwt. of fine gold per ton by assay, would be re-stamped, but generally speaking the separation of the gold from the quartz is so easily effected, when the operations are properly conducted, that the residue is too poor for further treatment. I am not at all surprised to learn that the remains, or tailings, resulting from crushing rich quartz in Australia should be found occasionally rich

were, between that and the substantial body of ore capable of yielding profits. He felt perfectly satisfied that a little perseverance with their engine-shaft would produce results satisfactory to all interested in the undertaking.

A SHAREHOLDER enquired if the West Silver Bank contained the same lode as that in Abernant?—Mr. M. FRANCIS replied that it was precisely the same lode, but that it contained a greater quantity of silver. There could be no doubt, however, that the lode in West Silver Bank would prove of the same extraordinary value as that already opened upon in Abernant. The shaft in Abernant was down 10 fms., and the lode by no means diminished in value. In Abernant all the rocks surrounding the deposits of ore were very hard, forming, so to speak, a barrier for the water; but in West Silver Bank at present the ground was more cinder-like, and, therefore, had been unable to hold so near the surface the waters of crystallization, which formed metalliferous deposits. That was the reason why in Abernant the course of silver-lead was held down with such great regularity; and in West Silver Bank there was an ample barrier to the eastward to keep in the water, and when they had sunk deep enough to reach the western barrier, which might be expected daily—there could be no doubt a valuable deposit of ore would be found.

Mr. COOKCRAFT assumed the Abernant property was situated at a lower surface-level.

Mr. M. FRANCIS replied that there was a valley between the two properties.

The SECRETARY said the result of his examination induced him to believe that, comprising the two mines, the general character of the lode was the same.

Mr. FRANCIS said that in Abernant the lode contained a larger quantity of silver, and was of a much harder and closer nature than that in West Silver Bank. He thought there was a bar of porphyry coming up towards the Abernant ground, which approached nearer to the silver deposit than in West Silver Bank.

Mr. ATKINS thought the proprietors could but congratulate the directors upon the vigour with which the development of the mine was prosecuted. Since January the shaft had been sunk at the rate of 10 fathoms, while he understood that some of the mines in the district, now making large profits, had sunk their shafts at the rate of 3 fathoms a year. He thought from all he had been able to collect from various sources that they might confidently expect the West Silver Bank engine-shaft would be in a course of ore in a very short distance from the present working.

Mr. M. FRANCIS believed that the shaft would be in a course of ore in a few weeks.

The CHAIRMAN hoped and believed that their expectations would be realized by proving the West Silver Bank property equal in productiveness to its rich neighbours.

The motion adopting the reports and accounts was then put and carried unanimously. A resolution was then passed confirming the call of 5s. per share made by the directors, and making a further call of 5s. per share.

The CHAIRMAN, in answer to a question, stated that at the time the directors limited the issue of the shares to 1000, the returns from the mine were more than paying its costs; and for that reason they had confined the issue to that number.

A unanimous vote of thanks was then passed to the Chairman and directors for the satisfactory manner in which they had conducted the company's affairs.

The CHAIRMAN, on behalf of the board, acknowledged the compliment, and assured the proprietors that it was the anxious desire of the board to conduct the company's affairs with credit to themselves, and with satisfaction to all connected with the undertaking.

A special vote of thanks was then passed to Mr. Thomas Sparro, the company's secretary, for the zeal and efficiency with which he has discharged the duties pertaining to his office.

The SECRETARY acknowledged the compliment in appropriate terms. He felt exceedingly obliged to the proprietors for this renewed mark of their confidence and esteem, and he assured them he would continue to do his utmost to promote the best interests of the company. He watched with the greatest interest the development of this property, believing it would, sooner or later, produce results as satisfactory to those by whom the undertaking was initiated as they would be gratifying to those who participated in the benefits. He could not but feel somewhat disappointed at the shaft coming into an unproductive piece of ground, but that was by no means a reason that upon further development the shaft would not come upon a deposit of ore of increased value and extent. Being that upon either side of the West Silver Bank there were productive and profitable veins of ore in course of exploration, and that the lode possessed precisely the same distinctive characteristics as those presented by their rich neighbours, he could not conceive it possible that the lode in their property should, contrary to the analogy and the geology of the district, not yield profitable results. If the shaft should open up, as he firmly believed would be the case, a rich deposit of ore, he would forthwith communicate the fact to each proprietor. Hoping that before the next general meeting their most sanguine expectations would be realized, he concluded by again thanking the meeting for the vote they had so kindly accorded.

A vote of thanks to the Chairman was passed, when the proceedings terminated.

ROSEWARNE CONSOLS MINING COMPANY.

An ordinary general meeting of proprietors was held at the London Tavern, Bishops-gate, on Tuesday, Mr. E. J. WILSON, in the chair.

Mr. J. HOLLOW, the purser, having read the notice convening the meeting, submitted the statement of accounts, from which the following is condensed:—

Balance last audit	£379 6 0
Labour cost, Oct. to Jan., 1862	713 3 3
Doctor's pence and sundries	7 4 6
Lord's dues	47 6 9
Merchants' bills	238 10 10 = £1385 11 4
Balance of call, made Nov. 20 last	£466 4 6
Copper ore sold	852 1 10
Timstiff sold	64 19 1 = 1383 5 5
Balance against adventurers	£ 2 5 11

The report of the agents was read, as follows:—

March 22.—We beg to lay before you the following, showing the work accomplished during the past four months, together with the present state and prospects of the mine. The flat-rod shaft, on the caunter lode, has been sunk 10 fms., divided, cased, fixed lift-rods, water-cut, plait, and made it complete from the 20 to the 30. Driven the 40, east from engine-shaft, 21 fms. Driven the 20, east from Ellen's shaft, 22 fms.; cut plait, &c.; and the 20, east from the same shaft, 17 fms. 3 ft. Driven the 20, east from flat-rod shaft, on the caunter, 22 fms., and sunk Ellen's shaft below the 30 fm., level 6 fms., total ground opened on tutwork for the four months, 98 fms. 3 ft., cut three plats, and done all necessary work required. We are now sinking Ellen's shaft below the 30, by six men, 10 fms., taken at a contract of 42s. This shaft is sunk 6 fms. below the level, and in about three weeks from this time it will be down to the 40, when we shall at once commence to drive east under the long run of ore ground gone down in the bottom of the 30. The lode in the present bottom of the shaft is 12 in. wide, of a most beautiful appearance, producing rich stones of ore, but as yet not much to value per fathom. The 40 is driving east from the engine-shaft by four men, at 45s. per fm.; the lode in this end is at present poor. About 18 fms. more driving will communicate this level with Ellen's shaft in the 40; and when this work is completed, and the 40 end holed to Ellen's shaft, it will greatly facilitate our future operations in that level. The 30 is driving east from Ellen's shaft by two men, at 40s. per fm.; the lode in this end is at present confused by a cross branch. We commenced yesterday to drive the 30, east and west of the flat-rod shaft, on the caunter lode. Those ends are driving by six men, at 50s. per fm. The lode here is 18 in. wide, of a promising character, producing occasional stones of ore. We shall push on the end west with all speed, to reach the ore ground gone down in the bottom of the 20 as soon as possible; about 25 fms. more driving will reach it, and, from present indications in the bottom of the 20, we may reasonably expect a good course of ore in the 30. The 20 is driving east from flat-rod shaft by two men, at 35s. per fm.; lode at present unproductive. No. 1 slope in back of the 30, east of Ellen's shaft, on the engine-shaft, is worth 25s. per fathom; set to four men, at 2s. 9d. in 12'. No. 2 slope, in back of the same level, is worth 20s. per fm.; set to four men, at 3s. in 12'. We commenced to sink a winze in the bottom of the 30, east of Ellen's shaft, to prove the lode and ventilate the mine, but, in consequence of the great quantity of water issuing from the lode, we are obliged to suspend it until Ellen's shaft is sunk to the 40. This winze is down 9 ft. below the level; the lode in the present bottom is 12 in. wide, worth 25s. per fm. In the last four months we have opened on the lode in the 30, east of Ellen's shaft, on a good piece of ore ground, which, if we calculate only at 4 fms. up, 4 fms. down, and 20 fathoms in length, will produce 2400f. worth of ore, from which we have sold about 600f. worth. There are 37 men, 5 boys, and 6 girls employed on the mine, making a total of 48 persons. In conclusion, we beg to say that we consider we have a mine here of considerable promise. A gradual increase has taken place in the returns during the past four months, and our prospects of success were never better than at present. Should the engine lode in the 40, east of Ellen's shaft, and the caunter lode in the 30, west of flat-rod shaft, prove equal to our expectations, the mine will, before the end of present year, be one of the first-class.—T. UREEN, J. BERRIMAN.

The CHAIRMAN said his friend, Mr. Boorman, a large shareholder, and himself, who also held a large interest in the mine, had carefully gone through the whole of the accounts, and he was glad to say that, as usual, they were perfectly correct—all the bills charged up, and everything of a most satisfactory character. They had now, he thought, arrived at that point when they might confidently look forward for some return for their outlay. The profits on the last month's sale of ore exceeded 100%, and from the report just submitted he was glad to find that the prospects were very encouraging for a continuance. It appeared that the rich course of ore which had been driven over in the 30 had been proved in a winze below that point to be as great a depth as the water would allow, and that in that winze the lode was better than at any other part. Ellen's shaft was being sunk to the 40 as rapidly as possible, and when reached a level would be driven east under the run of ore ground. There could be no doubt, he thought, that the ore would be found to last to that level, and much below it; in which case large profits would be realized. He concluded by moving the reception and adoption of the report and accounts.

Mr. T. BOORMAN, in seconding the proposition, said that he had been for a long time connected with the present undertaking, but he trusted that the point was now reached when they might shortly expect some return for their expenditure. The agents' report just read was very satisfactory to his mind, and he hoped it would prove equally so to his fellow-shareholders. It was true his share had cost him a good round sum, but he thought the present prospects justified him in believing that he would be amply repaid for his outlay. He was glad to be able to bear testimony to the untiring zeal of their purser, Mr. Hollow, and it must be satisfactory to him to find that such pleasing results were on the eve of being realized.

Mr. LEELAN having made several enquiries with respect to the accounts, which were satisfactorily replied to, said that he had always had a very high opinion of the mine, and had from time to time sent some of the best agents in Cornwall to inspect it. He referred especially to Capt. Nancarrow (of St. Ives Consols), who, at a time when the mine was not near so valuable as at present, strongly recommended him to buy the shares at 50s. per share, believing it to be a good investment. The present results of the workings were very pleasing to him, inasmuch as it not only confirmed his own opinion, but also that of Capt. Nancarrow, in whom he placed the greatest confidence.

Mr. J. HOLLOW then explained, by means of a surface plan and working section of the position and prospects of the various points of operation. He said it was a source of no little satisfaction to him to find that he continued to have the confidence and goodwill of the shareholders, for had it not been for their support, by the prompt payment of the mine for so long a period. If the statement of accounts and report just submitted were satisfactory to the shareholders, they must in a much greater degree be satisfactory to himself, inasmuch as he had, to a certain extent, been the humble instrument in bringing about such a desirable result. He had every confidence that the ore would last to a great depth, for the mine was at present but shallow, a 30 fm. level being a very inconsiderable depth. Various agents of the highest standing in Cornwall had pointed out the 60 fm. level as being the depth at which the largest and richest deposits of mineral would be found, as at that level the great cleft course, standing to the north of the engine lode, and the engine lode itself, would be found in contact. It was invariably the case in this locality that such junctions made very large and rich deposits of ore. So that, taking into account the fact that they had ore in the 30 fm. level, and most promising lode, and as the 60 fm. level had been referred to as being the point where a very large and rich deposit of ore would be found, it certainly seemed that if they had most excellent prospects of a lasting and profitable mine. As regarded the caunter lode, there was a long course of ore driven over in the 20 fm. level on that lode. But they were now down to the 30, and had begun to drive westward under this ore ground, which would be reached in about two or three months hence. The reserves calculated

mentioned in the report had no reference whatever to this lode, and he saw no reason why this lode should not be equally productive with the other, and perhaps more so, which were identified with his own.

Mr. ROBERTSON said he considered the report most satisfactory, and the prospects most encouraging.

The report and accounts having been unanimously received and adopted, a special vote of thanks was passed to Mr. J. Hollow, and duly acknowledged, when the proceedings terminated with the usual compliment to the Chairman.

WHEAL UNY MINING COMPANY.

A general meeting of proprietors was held at the offices of the company, Adam's-court, Old Broad-street, on Wednesday.—Mr. Hinde in the chair.

Mr. DUNSFORD (the secretary) read the notice convening the meeting, and the minutes of the last read and confirmed.

The accounts, made up to the end of January, showed a debit balance of 1940f. 3s. 10d.

The report of the agent was then read, which stated that the tin lode was never looking better than at present. They had sold in the past three months nearly 75 tons of black tin, and when they got the extra heads of stamps at work, which they were now putting in, they would considerably increase the return of tin.

The CHAIRMAN said it would be seen by the statement of accounts just presented that there were four months' costs against three months' returns, so that the financial position of the undertaking was in a healthy and sound position. He felt convinced that the company's affairs, now that they were placed in the hands of Mr. Dunsford, would be managed with credit to himself and with satisfaction to the shareholders.

Mr. R. H. PIKE (the purser), in answer to a question, said that the merchants were now perfectly satisfied, and would not unduly press their claims.

The SECRETARY, in answer to a question, stated that the arrears of call, which amounted to 273f., did not include the amount due upon the forfeited shares at the time of forfeiture. The call had not been made upon the whole, but upon the reduced number of shares. Probably the meeting would upon the present occasion deal with the forfeited shares.

The CHAIRMAN said, as no credit had been given, they had not taken in the arrears of call as an asset.

Mr. MUNDAY enquired if the company worked under rules and regulations?—The SECRETARY replied in the affirmative, and read a rule from the cost-book, empowering the shareholders at the general meeting next after that appointed for the payment of a call, or any subsequent meeting, to declare absolutely forfeited all shares the calls of which should remain unpaid; the shares so forfeited to remain in the name of the company, a general meeting having power to decide in what manner they should be sold, or otherwise disposed of, for the general benefit of the shareholders.

Mr. HOCKING much doubted the legality of such a rule, believing all forfeited shares must be sold through the Stannaries Court.

The CHAIRMAN knew it was the fashion of some people to endeavour to make others believe that nothing could be done without the sanction, or beyond the pale, of the Stannaries Court. But the main, if not the only, objection to the Cost-book System, the liability of each shareholder to be sued for the whole of the outstanding debts—had received a very important emendation, by a decision recently given by the Master of the Rolls (and reported in the *Mining Journal*), which entirely overruled the decision of the Stannaries Court, and protected the plaintiff, whose calls had been paid, from liability to be further sued by the creditors, and staying the process.

The SECRETARY said that he had upon a previous occasion consulted an eminent counsel upon this very question of the power of a general meeting of the shareholders to forfeit shares in arrear of call, if a rule to that effect appeared in the cost-book, and he gave it as his opinion that any rules and regulations were as covenants in a deed of partnership; so that if one existed empowering a general meeting to forfeit shares, the holder thereof could not recover against the company.

Mr. R. H. PIKE had consulted Mr. Michell, the Registrar of the Vice-Warden, upon the point, who had given it as his opinion that such rules and regulations were positive.

The CHAIRMAN said, even putting that out of the question, the Master of the Rolls had overruled the decision of the Stannaries Court.

Mr. R. H. PIKE said he had just arrived from the mine, and he was glad to find that in addition to the produce from the old part of the lode, they had recently made an important discovery of a new portion of lode. The old part of the lode yielded 2½ per cent. produce, but the new portion yielded a produce of 4 per cent. If that produce continued, from calculations he had made, he believed they would be able to return 30,000 fms. of tin, or the value of 20s. per fathom. He considered it was quite within the mark when he said that by the discovery recently made they had ground to be taken away worth 80,000f. The lode was 6 feet wide, and very near the shaft. In the 30 it was about 15 fathoms from the shaft. The lode had been tried at every level, and there was no deposit standing from the 60 downwards.

A SHAREHOLDER enquired whether the discovery referred to included the copper?

Mr. PIKE said they were sure of the copper, but it was not included in the calculation to which he had referred.

Mr. MUNDAY enquired the cost of converting the raw material into the manufactured metal?

Mr. PIKE said: About 10s. in 12.

A SHAREHOLDER enquired the amount of the arrears of the late secretary?—The SECRETARY replied that the deficit amounted to 234f.; in addition to which there was an amount of 82f., the balance of the club account, that amount having been handed over by the purser to the late secretary.

After some further discussion, the report and accounts were received and adopted, and a call of 5s. per share was made. A resolution was passed authorizing the committee to sell by public auction the forfeited shares.

Mr. ALDERMAN CARTER, Messrs. Hinds, Hocking, and Spalding were appointed the committee of management. A vote of thanks to the Chairman terminated the proceedings.

BLUE HILLS COLLIERY COMPANY.

The first general meeting of shareholders was held at Leek, on March 22,

Mr. F. W. JENNINGS in the chair.

The Articles of Association, as laid down by Mr. Thomas Tapping, so far as they were applicable, were unanimously adopted, and ordered to be entered in the cost-book.

The following gentlemen were unanimously elected the committee of management for the next four months:—Messrs. C. SLAGG, C.E., J. W. FORBES, F.G.S., A. OVERFIELD, and F. T. TURNER. The offer of Mr. SYKES to act as the secretary gratis until the declaration of the first dividend was accepted; and the Leek Bank were appointed the bankers of the company. Reports were read from Mr. C. SLAGG, C.E., and J. RICHARDSON, C.E., F.G.S., both of which were of a very encouraging nature, and gave every confidence to the shareholders that they had a valuable field of coal, which only required opening out to pay exceeding well.

A discussion ensued, in which it was shown very clearly that the undertaking was beyond a speculation; that the bed of coal was from 4 to 5 feet thick; that the work could be opened out in about six months, so that the coal would be in the market next winter; and as it will be a ready-money one, dividends will soon follow. The committee was ordered to commence operations as soon as possible. Mr. SYKES reported that it must be very satisfactory to the shareholders that Mr. Slagg had become a shareholder upon the strength of his report, and had consented to act upon the committee. He (Mr. SYKES) felt perfectly satisfied in his own mind that they would, in a little over 12 months, be able to pay 50 per cent. upon their outlay in dividends; and in the strength of that opinion he had taken more than a quarter of the shares. All their preliminary expenses will not be more than 20%, contrasting very favourably with the majority of such undertakings, where hundreds are spent. After a vote of thanks to the Chairman the meeting separated.

DALE MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Adam's-court, Old Broad-street, yesterday, Mr. ORROW in the chair.

Mr. DUNSFORD read the notice convening the meeting, the statement of accounts, of which the joined is an abstract, and the agent's report:—

EAST ALFRED CONSOLS.—W. Arthur, H. Skewes, March 26: The shaftmen are cross-cutting south towards the south lode, and in about 6 fathoms further driving we expect to cut the lode. This lode in the 70 fathom level is about 18 in. wide, and letting out a great deal of water, which we hope will drain the 50 fm. level, and enable us to sink through the bunch of ore gone over in this level. The lode in the 50 is 2 feet wide, promising in appearance. We are driving a cross-cut at the 50 south, and expect soon to cut another lode, which is standing whole from surface. No particular change to notice in any other part of the mine.

— William Painter, March 27: The lode in the 70 fm. level is producing good stones of copper ore, and likely to improve considerably.

EAST CARN BREA.—T. Gianville, J. Scholar, March 26: In the 40 east the lode will produce 3 tons of ore per fm., worth 81 per ton. In the winze below the 40, east of the cross-cut, the lode will produce 3½ tons of ore per fm., worth 81 per ton. In the 26, driving west of Crotch's is unproductive. The lode in the 78 fm. level, driving east of Hoskins's, is 3 ft. wide, very kindly in appearance, and producing stamping work. The lode in the same level, driving west, is worth 201 per fathom. There is no change in the 68 fm. level driving east. The stopes in the back of this level, west of shaft, are worth 101 per fathom. The lode in the 58 fm. level, driving east, is 4 ft. wide, saving work. The stopes in the back of this level, west of shaft, are worth 201 per fathom. We have 52 pitches working, at an average tribute of 10s. in 12.

GREAT WHEAL MARTHA.—Henry Rickard, March 27: The 52, east from engine-shaft, is progressing favourably by the side of the lode, as well as in the 52 west, in good ground. The 40 west, during the last week, has very considerably improved—producing good work for copper ore. We are getting under the run of ore ground seen in the 20, above the backs, standing in whole ground for 20 fms. high. The same level east is producing occasionally good stones of ore, with prospects of an early improvement. The 20, west from Thomas's shaft, is still opening out good tribute ground, and the winze sinking below the 10 proves that large quantities of copper ore will also be taken away between these two levels, after a communication is made, which I hope will be against the end of this month. Several of our tribute pitches have also improved during the past week, and we hope to sample to-morrow about 340 tons of fair average quality copper ore. The prospects of the mine throughout are better than I have seen them for some time past.

GREAT WHEAL VOR UNITED.—T. Gill, F. Francis, S. Harris, March 25: Wheal Metal shaft is sunk about 6 fms. below the 152, and within the last 6 feet a branch of the about 4 in. wide came into the shaft, underlying south towards the lode; this shows good indications for a deeper level. In the 152 east the lode is about 2 feet wide, and worth about 601 per ton. In the 152 west, on the lode, we have intersected the lead branch; the lode before we intersected the lead branch was worth between 2001 and 3001 per fm.; in a few days we expect to get beyond the influence of the lead branch, when we may expect fully as good results. In the 142 east the lode is about 4 feet wide, and worth about 401 per fm. In the 132 west the lode is 2 feet wide, and worth about 161 per fm. In the rise in back of the 152 west the lode is 1½ feet wide, and worth about 701 per fm. In the rise in back of the 152 west the lode is 1½ feet wide, and worth about 201 per fathom. All the stopes throughout the mine are looking full, as well as last reported. Ivey's shaft is sunk about 6 fms. under the 100; the lode is about 2 feet wide, and poor for mineral. In the 100, west of Ivey's shaft, the lode is about 1½ feet wide, but not to value. Edwards's shaftmen are engaged casing and dividing shaft from the 60 to the 62. We have not as yet cut the lode at the south shaft, but hope to do so in the course of a few days. All our machinery throughout the mine is in excellent order.

EAST ROSEWARNE.—J. James, March 22: The lode in the 55 east is 1 ft. wide, worth 141 per fm. There is no change to notice in the 55 west, except an increase of water; we are daily expecting the killas, and an improvement in the lode. In Hallett's shaft the lode is 9 in. wide, worth 81 per fm. The 43 fm. level winze is worth 241 per fathom. The stopes west of winze is worth 151 per fm. We shall get the flat-rods to work as soon as possible, when we shall sink Hallett's shaft below the 55 in a good lode.

EAST WHEAL GREENHILL.—G. R. Odgers, March 22: Since I wrote you on Wednesday the 45 east has improved for copper; it is 2 ft. wide, composed of quartz and mundic, with good grey ore, yielding probably 3 tons per fathom—a very promising lode. All the other bargains are progressing satisfactorily, but without any change.

—Geo. R. Odgers, Wm. Bennett, March 26: We beg to inform you that we have not taken down any lode in the engine-shaft sinking below the 45. The lode in the 45 east is from 3 to 4 feet wide, composed of mundic, quartz, and prian, yielding some good work for copper and tin, worth about 101 per fm. The lode in the 45 west is large, it being mixed with elvan; it is not so good as it was, but, judging from the appearance of the level above, we think this will only be temporary. The lode in the 35 east is 3 feet wide, composed of gossan, quartz, and peach, yielding a little tin. The lode in the stopes above the 35 west is worth about 51 per fm. for copper and tin. We are busily engaged bringing up the lode, and making the wheel-pit for the stamps.

EAST WHEAL MARTHA.—J. Richards, March 27: We are still driving by the side of the lode in the adit level east of the engine-shaft; the lode when last taken down was of a good description, being composed of capel, quartz, and mundic, and a fine looking lode.

EAST WHEAL RUSSELL.—J. Goldsworthy, March 26: Homersham's Shaft: The driving of the 120 east has been commenced; no lode has yet been taken down; the cutting of ground for cisterns, &c., will be completed in a few days. In the 110 east the part of the lode being carried is 4 ft. wide, composed of capel, quartz, gossan, prian, and produces a little rich copper ore. In Fowlin's cross-cut, in the 110 north, a small branch has been intersected, which contains good stones of grey copper ore; to the north of the branch elvan has been met with, and between the joints there are faces of native copper. In the 100 east the lode is 3 feet wide, composed of quartz, prian, mundic, and a little black oxide of copper ore. In Vigor's No. 2 rise, in the back of the 100, on the north part of the lode, the lode is 2 feet wide, and produces saving work. The stopes in the back of the 100, west of Oats's No. 2 winze, is worth 121 per fathom. In the rise in the back of the 88 the lode is 2 ft. wide—unproductive. In the rise in the back of the 66 the lode is 5 ft. wide, composed of capel, quartz, prian, mundic, and produces rich stones of yellow copper ore; the lode has been spare for rising, which makes the progress rather slow. —Hitchins's Engine-Shaft: In the 88 west the part of the lode being carried is 3 ft. wide, composed of quartz, prian, mundic, &c., and carrying a leader of good copper ore 9 in. wide on the north side of the drivage; the lode has a fine appearance, and likely to further improve, which will now produce over 1 ton per fathom.

—J. Richards, March 27: Homersham's Shaft: The driving of the 120 fm. level is commenced by the side of the lode in favourable ground for progress. In the 110 fm. level east, the lode is 4½ feet of which is being carried, and consists of quartz, capel, gossan, mundic, prian, and a small proportion of black oxide of copper. It is thought, however, that the main part of the lode is gone off south, and for proof of which a cross-cut will be put out in that direction. In Fowlin's cross-cut north, at the 110 fm. level east, another branch has been intersected (6 inches wide), from which good stones of ore have been obtained; the cross-cut is still being continued to the north thereof, where elvan has been met with, which contains a small proportion of malleable copper. In the 100 fm. level east, the lode is from 3 to 4 feet wide, consisting of quartz, mundic, and a small proportion of black oxide of copper. In Vigor's No. 2 rise, in the back of the 100 fm. level east, on the north part of the lode, the lode is of fair size (2 feet wide), and worth ½ ton of ore per fm. The lode in the stopes in the back of the 100 fm. level east, west of Oats's No. 2 winze, is worth 121 per fm. In the new or Dodge's rise, in the back of the 88 fm. level east, the lode is 3 feet wide, and unproductive. In the rise in the back of the 66 fm. level west, the lode is large (5 feet wide), composed of strong capel, mundic, and occasionally fine stones of yellow copper ore.—Hitchins's Engine-Shaft: In the 88 fm. level west, the lode is looking far more healthy; it is 3 ft. wide, consisting of capel, quartz, prian, and carries on the north wall thereof a leader of good ore work, worth full 1 ton of ore per fm., and the appearances warrant an improvement. —FRANK MILLIS.—J. P. Nicholls, J. Cornish, March 26: The 84 north is without any particular change in its character, but we have cut a large stream of water; we calculate it will soon subside again, as it is draining the 73. The stopes in the back of the 84 is yielding about 1 ton of lead ore per fm. The 73 north, on the west lode, is at present hard and poor. The same level north, on the west branch, is now yielding from 3 to 6 cwt. of lead ore per fm., and looking promising for improvement. The 60 north, on the west branch, is also yielding from 6 to 7 cwt. of lead ore per fm. In the 60 cross-cut west the ground has again become easier, and more branches crossing the end, which are letting out a large quantity of water; this, in addition to the increase at the 84, has doubled our water for the engine during the past week; we, however, think it will soon subside after it has had time to drain, having experienced similar cases here before. The stopes in the back of the 60 and 45 are yielding about their usual quantity of water, and there is nothing worthy of remark in any other work bargain. The tribute department, on the whole, is looking a shade better.

FURZE HILL, WOOD.—J. Pomroy, March 27: The 20, on No. 1 lode, has been extended east and west 16 fms. 5 feet; this distance of driving is all in good tin ground; the lode in the before-named level east is 3 feet wide, and producing good work for tin; in the same level west the lode is 2 ft. wide, well-defined walls, but good work for tin; in the same level west the lode is about 3 fms. more to drive to take the copper lode; the cross-cut south, at the same level, is extended 5 fms. 1 ft.; and the whole of the distance to drive to take the south lode is about 16 or 18 fathoms; I do not give the value of the lode at 16 fms. 3 ft. laid open in the back of the 20, but the produce, if it continues as at present, with good management, will pay the present cost of the mine. This I am quite prepared to perform; but if the managing gentlemen wish to incur heavy expenses, and apply money to any purpose, the foregoing statement cannot be accomplished (myself holding a heavy interest in this mine, only two exceeding me that have paid calls up); I am, therefore, in duty bound to make it a paying one, if possible. There are eight heads of stamps at work, and I am prepared to keep twelve, if permitted. —MAUDLIN.—Wm. Rowe, March 27: There is no particular change in either point in operation during the past week. We have succeeded in clearing the bottom level home to the western winze, sufficient to improve the ventilation throughout the workings. The tribute department is a little improved.

GREAT BRIGAN.—Thos. Trelease, G. Oates, March 22: We have dropped our lift 4 fms. below the 22, and are now in fork to that depth; we find the shaft at this point filled with old timber, and shall commence clearing as soon as we have put in another set of bearers and other work that will be necessary, which will take most of next week to complete. We have cleared and secured the engine-whim-shaft to the 32, and commenced drawing; we shall begin to clear the same level both east and west on the course of the lode next week, but as far as yet seen most of the ground has been taken away by the former workers. Shop shaft is now being cleared below the 12. The eastern engine-shaft also below the 12. The cross-course shaft is cleared and secured to the 28. Highbrow shaft is cleared 20 fms. below the adit, but finding a little water, are obliged to suspend it for the present; the men are now engaged clearing east and west from said shaft. —North Treskerby lode, in the deep adit level, driving east of Trevanning's shaft, is 3 ft. wide, much of the same character as last reported; this lode, driving west of the above shaft, is 4 ft. wide, producing good stones of ore, of a very promising appearance. —Nothing new reported at this level, driving west of Oats's shaft. We purpose sampling the tin-stone we have on this mine on Friday next.

GREAT BIRCH TOR AND VITIFER CONSOLS.—J. Lean, J. Symons, March 24: In consequence of the late severe snow storm, which lasted from Thursday morning till Friday noon, and filled the leats for many miles, which had to be cleared by manual labour, the engine-wheel was idle from Thursday evening to Saturday night, during which time the water had risen 2 fathoms above the 12; the engine now is in regular course of forking, and we expect the mine will be drained to the bottom by the end of this week. Owing to the above we are unable to report on the pitches and bargains for sinking, and there is nothing worthy of remark in any other work bargain. The tribute department, on the whole, is looking a shade better.

GREAT COAT.—T. Trelease, March 22: We have dropped our lift 4 fms. below the 22, and are now in fork to that depth; we find the shaft at this point filled with old timber, and shall commence clearing as soon as we have put in another set of bearers and other work that will be necessary, which will take most of next week to complete. We have cleared and secured the engine-whim-shaft to the 32, and commenced drawing; we shall begin to clear the same level both east and west on the course of the lode next week, but as far as yet seen most of the ground has been taken away by the former workers. Shop shaft is now being cleared below the 12. The eastern engine-shaft also below the 12. The cross-course shaft is cleared and secured to the 28. Highbrow shaft is cleared 20 fms. below the adit, but finding a little water, are obliged to suspend it for the present; the men are now engaged clearing east and west from said shaft. —North Treskerby lode, in the deep adit level, driving east of Trevanning's shaft, is 3 ft. wide, much of the same character as last reported; this lode, driving west of the above shaft, is 4 ft. wide, producing good stones of ore, of a very promising appearance. —Nothing new reported at this level, driving west of Oats's shaft. We purpose sampling the tin-stone we have on this mine on Friday next.

GREAT RETALLACK.—W. H. Reynolds, March 25: In the 53 east we are driving on a very kindly part of the lode, which is yielding good leady work in places, and appears likely to improve. In the 53 west we are driving in soft ground by the side of the lode; we shall cut into the lode next week; the wall of the lode is tintured with copper, and we expect deposits of copper in this direction; we have cut into the lode more than 6 fms., and have no wall yet.

GREAT SOUTHLAND.—J. D. Daw, March 26: The lode in the 140, east of Lyle's shaft, is 5 ft. wide, producing some rich work for tin, worth 201 per fm. We have not as yet commenced to drive the 160 west. The lode in the 112 west is 3 feet wide, producing a little ore, but not enough to value. —We set on Monday last, 16 pitch tunnels, averaging a tribute from 4s. to 12s. in 12., and sampled to-day 186 tons of copper ore.

GREAT WHEAL BADDERN.—John Jenkins, March 22: At Hill Brothers shaft, in the cross-cut driving north, the ground is much the same as when last reported—water flowing freely from the end. We are progressing with all possible speed.—Landons: The ground and prospects at this point are much as usual—more water, daily increasing as we approach near the lode.

GREAT WHEAL BUSY.—J. Delbridge, March 25: The water is drained 2 ft. below the back of the 50, at the engine-shaft. We have been through 80 fms. of the 50; we find the level in good order, and most of the ground taken away; still we find some ground taken away in the backs. In the 50 end the lode is 10 in. wide, for about 3 fms. in length from the level up; this lode is yielding some fine ore, from the samples now brought up; we shall work as soon as we can discharge the stuff. We hope to give you further information to-morrow.

GREAT WHEAL FORTUNE.—J. Vivian, N. T. Miners, T. George, March 27: Main Lode: The rise in the 85 is communicated with the 70, and we have laid open a very extensive piece of tin ground, which can be taken away at a moderate tribute. No change in any other part of the old mine worthy of remark.—Carnousal: The lode in the 78, driving east of Painter's engine-shaft, has improved, now worth 701 per fm. We have set the same level to drive west, at 71. 10s. per fm. The 68 is communicated with the level driven west from Hoskins's, which has laid open a very valuable piece of tin ground. The lode in the winze sinking in the bottom of this level, 12 fms. in advance of the level driving east in the 78, is worth 601 per fm. The lode in the

stope in the back of this level (the 68) is worth 401 per fm.; these stopes are being worked by 14 men. The lode in the 68, driving west of cross-cut, east of shaft, is producing rich stones of tin. The stopes in the back of this level are worth 101 per fm. The 36, driving west of Crotch's is unproductive. The lode in the 78 fm. level, driving east of Hoskins's, is 3 ft. wide, very kindly in appearance, and producing stamping work.

The lode in the same level, driving west, is worth 201 per fathom. There is no change in the 68 fm. level driving east. The stopes in the back of this level, west of shaft, are worth 101 per fm. The lode in the 58 fm. level, driving east, is 4 ft. wide, saving work. The stopes in the back of this level, west of shaft, are worth 201 per fm. We have 52 pitches working, at an average tribute of 10s. in 12.

GREAT WHEAL MARTHA.—Henry Rickard, March 27: The 52, east from engine-shaft, is progressing favourably by the side of the lode, as well as in the 52 west, in good ground. The 40 west, during the last week, has very considerably improved—producing good work for copper ore. We are getting under the run of ore ground seen in the 20, above the backs, standing in whole ground for 20 fms. high. The same level east is producing occasionally good stones of ore, with prospects of an early improvement. The 20, west from Thomas's shaft, is still opening out good tribute ground, and the winze sinking below the 10 proves that large quantities of copper ore will also be taken away between these two levels, after a communication is made, which I hope will be against the end of this month. Several of our tribute pitches have also improved during the past week, and we hope to sample to-morrow about 340 tons of fair average quality copper ore. The prospects of the mine throughout are better than I have seen them for some time past.

GREAT WHEAL VOR UNITED.—T. Gill, F. Francis, S. Harris, March 25: Wheal Metal shaft is sunk about 6 fms. below the 152, and within the last 6 feet a branch of the about 4 in. wide came into the shaft, underlying south towards the lode; this shows good indications for a deeper level. In the 152 east the lode is about 2 feet wide, and worth about 601 per ton. In the 152 west, on the lode, we have intersected the lead branch; the lode before we intersected the lead branch was worth between 2001 and 3001 per fm.; in a few days we expect to get beyond the influence of the lead branch, when we may expect fully as good results. In the 142 east the lode is about 4 feet wide, and worth about 401 per fm. In the 132 west the lode is 2 feet wide, and worth about 161 per fm. In the rise in back of the 152 west the lode is 1½ feet wide, and worth about 701 per fm. In the rise in back of the 152 west the lode is 1½ feet wide, and worth about 201 per fathom. All the stopes throughout the mine are looking full, as well as last reported. Ivey's shaft is sunk about 6 fms. under the 100; the lode is about 1½ feet wide, but not to value. Edwards's shaftmen are engaged casing and dividing shaft from the 60 to the 62. We have not as yet cut the lode at the south shaft, but hope to do so in the course of a few days. All our machinery throughout the mine is in excellent order.

—Geo. R. Odgers, Wm. Bennett, March 26: We beg to inform you that we have not taken down any lode in the engine-shaft sinking below the 45. The lode in the 45 east is from 3 to 4 feet wide, composed of mundic, quartz, and prian, yielding some good work for copper and tin, worth about 101 per fm. The lode in the 45 west is large, it being mixed with elvan; it is not so good as it was, but, judging from the appearance of the level above, we think this will only be temporary. The lode in the 35 east is 3 feet wide, composed of gossan, quartz, and peach, yielding a little tin. The lode in the stopes above the 35 west is worth about 51 per fm. for copper and tin. We are busily engaged bringing up the lode, and making the wheel-pit for the stamps.

EAST WHEAL MARSH.—J. Richards, March 27: The lode in the 40 east is about 3 ft. wide, composed of capel, quartz, and mundic, and a fine looking lode.

EAST WHEAL RUSSELL.—J. Goldsworthy, March 26: Homersham's Shaft: The driving of the 120 east has been commenced; no lode has yet been taken down; the cutting of ground for cisterns, &c., will be completed in a few days. In the 110 east the part of the lode being carried is 4 ft. wide, composed of capel, quartz, gossan, prian, and produces a little rich copper ore. In Fowlin's cross-cut, in the 110 north, a small branch has been intersected, which contains good stones of grey copper ore; to the north of the branch elvan has been met with, and between the joints there are faces of native copper. In the 100 east the lode is 3 feet wide, composed of quartz, prian, mundic, and a little black oxide of copper ore. In Vigor's No. 2 rise, in the back of the 100, on the north part of the lode, the lode is 2 feet wide, and produces saving work. The stopes in the back of the 100, west of Oats's No. 2 winze, is worth 121 per fathom. In the rise in the back of the 88 the lode is 2 ft. wide—unproductive. In the rise in the back of the 66 the lode is 5 ft. wide, composed of capel, quartz, prian, mundic, and produces rich stones of yellow copper ore; the lode has been spare for rising, which makes the progress rather slow. —Hitchins's Engine-Shaft: In the 88 west the part of the lode being carried is 3 ft. wide, composed of capel, quartz, prian, mundic, &c., and carrying a leader of good copper ore 9 in. wide on the north side of the drivage; the lode has a fine appearance, and likely to further improve, which will now produce over 1 ton per fathom.

—J. Richards, March 27: Homersham's Shaft: The driving of the 120 fm. level is commenced by the side of the lode in favourable ground for progress. In the 110 fm. level east, the lode is large, 4½ feet of which is being carried, and consists of quartz, capel, gossan, mundic, prian, and a small proportion of black oxide of copper. It is thought, however, that the main part of the lode is gone off south, and for proof of which a cross-cut will be put out in that direction. In Fowlin's cross-cut north, at the 110 fm. level east, another branch

at the incline shaft, below the 10, is without alteration to notice. We are making fair progress with the house.

ST. JOHN DEL REY MINING COMPANY (LIMITED).—Advices received per steamer, *Onsida*: *Morro Velho*, Jan. 29.—Reduction Department: Since the date of my last letter, forwarded per French steamer, under date the 17th inst., the general work throughout this department has been carried on with regularity, and without any interruption. The supply of stone received on the spelling-floors has just been sufficient to afford a supply of ore for the consumption of the stamps, though not quite enough to make us feel at ease in getting our quantity well picked from the small kilns. The picking, however, has been as carefully done as the limited daily supply would admit of, and the spelling carefully attended to. The stamps have had an ample water-power, and have done a full average duty. The amalgamation machinery has worked effectively, and all the sand treated produced by the stamps. The duty of the department has been steadily and satisfactorily performed. The proportion of kilns rejected in treatment is rather larger than during the first division of this month.

COST AND PROFIT.—Produce for Jan. is .. 48,692 oits.

Less loss in melting 262 oits.

Leaving 48,430 oits., at 7s. 7d. per oit. £18,363 0 10
The cost for Jan. is £s. 86,926 917s., exchange 2s. 2d. 9,417 0 1

Thereby leaving a profit of £ 8,946 0 9
The cost for January is less than that for the month of December, and may be taken as rather below the present average, but the increased rate of exchange has operated unfavourably on the sterling amount, and thus reduced the profit, which would otherwise have been about equal to that shown in December. During January our general prices have been favourable, and the outlay for provisions and materials less than in December. The stock of essential supplies is good at present, and there is every prospect of the chief articles of consumption being procured throughout the season at present prices.

* * We shall give a SUPPLEMENTAL SHEET with next week's Journal, in which several interesting papers and letters from correspondents, now necessarily omitted, will be inserted—also the Quarterly Returns of Sales from the different Mines, and a variety of miscellaneous information.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, March 28, 1862.

COPPER.	£ s. d.	BRASS.	Per lb.
Best selected.....	p. ton 101 0 0—	Sheets	10d. 11d.
Tough cake.....	" 98 0 0—	Wire	9d. 9½d.
Tile	" 98 0 0—	Tubes	11d. 12d.
Burna Burna	97 10 0 98 0 0		
Coplapo	" 0 0—	FOREIGN STEEL.	Per Ton.
Copper wire	p. lb. 0 1 0½—	Swedish, (hammered)	15 10 0—16 0 0
ditto tubes	" 0 1 1—	Ditto, in faggots	17 10 0—18 0 0
Sheathing & bolts	" 0 0 11—	English, Spring	18 0 0—22 0 0
Bottoms	" 0 1 0—	Barometers	20 0 0—
Old (Exchange)	" 0 0 9—	Spindles	30 0 0—
IRON.	Per Ton.	QUICKSILVER	7 0 p. o. p. bottle
Bars, Welsh, in London	8 5 0—	SPELTER.	Per Ton.
Ditto, to arrive	5 15 0—5 17 6	Foreign	18 10 0—
Nail rods	7 0 0—	To arrive	18 10 0—18 12 6
., Stafford, in London	7 0 0—7 10 0		
Bars ditto	7 5 0—8 0 0	ZINC.	
Hoops ditto	8 5 0—8 10 0	In sheets	24 0 0—
Sheets, single	9 0 0—9 10 0	TIN.	
Pig, No. 1, in Wales	3 0 0—4 0 0	English, blocks	120 0 0—
Refined metal, ditto	4 0 0—5 0 0	Ditto, Bars (in barrels)	121 0 0—
Bars, common, ditto	5 0 0—	Ditto, Refined	122 0 0—
Ditto, merchant, in Tees	6 10 0—	Barca	124 0 0—
Ditto, railway, in Wales	5 0 0—	Straits	117 0 0—
Ditto, Swed. in London	11 10 0—12 0 0		
To arrive	11 10 0—	TIN-PLATES.	
Pig, No. 1, in Clyde	2 8 0—2 18 0	IC Charcoal, 1st qua. p. bx.	1 8 0—1 9 0
Ditto, f. o. b. in Tees	—	IX Ditto 1st quality	1 14 0—1 15 0
Ditto, forge, f. o. b. in Tees	—	IC Ditto 2d quality	1 4 6—1 6 6
Staffordshire Forge Pig	3 10 0—3 12 6	IX Ditto 2d quality	1 11 0—1 13 0
Welsh Forge Pig	—	IC Coke	1 2 6—
LEAD.		IX Ditto	1 8 6—
English Pig	19 15 0—21 0 0	Canada plates	p. ton 12 10 0—12 0 0
Ditto sheet	21 0 0—	In London	20s. less at the works.
Ditto red lead	21 10 0—21 15 0	Yellow Metal Sheathing	p. lb. 9d.
Ditto white	28 10 0—30 0 0	Indian Charcoal Pigs	6 12 6—6 15 0
Ditto patent shot	22 10 0—23 0 0	In London	
Spanish	18 10 0—19 0 0		

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—Our market maintains with tolerable steadiness the improvement reported last week. Prices of some descriptions of metals have advanced in consequence of the increased demand, whilst others remain without change, and holders of second-hand parcels still experience difficulty in realising, unless below current rates. Consumers generally are buying more freely than for some time past, and there is a steady enquiry for shipment to the Continent. Indian orders continue limited, and the latest accounts report the markets there to be still very dull.

COPPER.—Greater firmness is manifested in the market for English; sellers now quote full rates, and are indisposed to make any concession, as a good enquiry exists for France and for home consumption at the present moment. Foreign continues firm at advanced rates. Burna Burna, 97. 10s.; Kapunda, 99.; Chili, 88.; Spanish, 88. to 90. For yellow metal there is a good demand, at about 3d. per lb. under fixed rates, and very little to be bought from first hands under 8d. per lb.

IRON.—There is an increased amount of activity in the market for railway bars, and the demand seems to be steadily on the increase; price firm, at 5s. 5a. f. o. b. in Wales. Merchant bars are less in request, and easier to buy—5s. at the works, and 5s. 15s. to 5s. 17s. 6d. delivered f. o. b. in the Thames, is now accepted by manufacturers not engaged in rolling rails. In Staffordshire descriptions there is an increased demand for best qualities, many makers are full of orders for nail-rods, and best bars are also more in request. At the late meeting of the Staffordshire ironmasters it was decided to make no alterations in quoted rates, except for hoops, which were reduced 10s. per ton—to 8s. 5s.; sales at this price have, however, been made for some time past, so that in effect this reduction was made long ago. Swedish bars are saleable to a limited extent at about 11s. 5s. to 11s. 10s.; arrivals of about 100 tons have taken place during the week. Scotch pigs have steadily advanced about 9d. per ton, mixed numbers now quoted 50s. to 50s. 1d.; market closing easy.

SPELTER.—Further business has been effected during the past week at about 18s. 10s. for spot parcels, and 18s. 10s. to 18s. 12s. 6d. for spring shipments. The market is now steady, but exhibits less activity. Sellers remain firm at quotations.

ZINC.—On the 26th inst. an advance of 20s. per ton was made, making the present price 24s. There is a good ordinary enquiry both for sheets and sheathing.

LEAD.—No alteration to report in English pig, and the market remains dull at former quotations. Spanish pig, 18s. 15s.

TIN.—English is less in request, and sellers are at present unable to obtain full prices. Foreign is quiet, and tolerably steady at 177s. for Straits; 124s., Banca.

TIN-PLATES.—With the exception of America, there is but little demand for export, but a large shipments continue to be made thither prices keep up in consequence.

STEEL.—No transactions are reported in any way affecting the position of Swedish keg or faggot; prices are nominally the same as last quoted.

THE SPELTER TRADE.—Messrs. Berger report that—Since our last this metal has been subjected to many variations: without any immediate cause or reason prices from 18s. receded to 17s. 5s. and 17s. 10s., but at this reduction they stopped, and our previous remarks that the stocks in the principal markets are not above the average, was fully proved during the last fortnight, when a sudden rise of 10s. up to 25s. was immediately established in Hamble and Breslau by large purchases, made principally for France, where the stocks are very low. Our market followed, and about 1500 tons were done at 18s. to 18s. 10s. spot, 18s. 10s. delivery, but prices abroad are still above ours, and it is not unlikely that continental buyers will have to come and buy from us very shortly. We also must expect some demand from India, whence the shipments have been very small for some time.

Stocks on March 1, 1862 5123 tons—price from £17 10 to £17 15
" 1861 4087 " 18 0 18 5
" 1860 3264 " 20 15 21 0
" 1859 3979 " 21 5 21 10
" 1858 1673 " 26 0 26 10

TIN TRADE.—We stated last week that there really did not appear any good reason for the recent falling in the price of tin, and anyone will observe by looking into the matter that the difference in the price of metal and black tin is about 17s. per ton in favour of the smelter. We cannot see any reason why this should be so; the miners, we think, ought to look after their own interest, and, if necessary, unite to stock their tin (or, at all events, their surplus) until a fair price is given between miner and smelter. We do not wish to say one word against the smelters, and admit that all parties should watch their own interest, but we fear the miners are not so alive to it as the smelters. Both parties ought to work in unison for the

common benefit of mining, and the sooner such a course of action can be fairly adopted the better for "One and All."

If some mines in a state of depression want money, how very promising they become! "Points" which for months previously may have shown no signs, save those of gradual extinction, are suddenly invested with extraordinary interest; and, through the unadorned eloquence of their agents, they shadow forth incipient fortunes; and the necessary "calls" are responded to. Well! and is not this the way of the world? A man does not put on his old coat when he goes forth to borrow; neither does he proclaim to the leader that his town house, like Jack Brag's, may be a doorplate at 5s. per week; or that his "little place in Surrey, surrounded by wood," is a room over a carpenter's shop in Newington Butts! And if this be true in little things, how grandly significant and attractive it becomes in greater! The "Sick Man" wants another eight millions, and forthwith he is paraded as a giant in strength, and wonderful, all at once, are the resources of Turkey. It is true that the best of these resources may have been long mortgaged for old loans, now at a discount; but what of that? Turkey is now entering upon new and prosperous phases of existence, and henceforth the lazy Mussulman shall smoke the calumet with doubly-taxed tobacco, and the stranger shall eat of his hypothecated salt! Our readers are aware that the all-absorbing topic of the week in the monetary world has been the new Turkish Loan, and it is something marvellous to find that, for a loan of eight millions applications have been made for about forty millions, and the enormous sum paid into Messrs. Glyn and Co. in four days, as the first deposit, shows the vast amount of unemployed capital afloat; and it is only natural for us to wish that more of it were directed towards those *bona fide* undertakings which are opening out the great mineral resources of this country, and offer good security and higher rates of interest than any foreign loan. However, there is one thing certain, and this may console us, that the drain of capital consequent on this new loan will nip in the bud many worse things which were ripe for launching, and many, also, that have been set afloat.

In the MINING SHARE MARKET, notwithstanding that the attention of the public has been so much attracted towards the Turkish Loan, a very large amount of business has been done since our last, both in dividend and progressive mines. Among the former East Caradon shares have not been quite so firm, owing to a slight falling off in the counter lode; but South Caradon, Wheal Seton, Great Wheal Fortune, Cook's Kitchen, Devon Great Consols, Providence Mines, Wheal Basset, South Tolgus, and a few others, have been more in request, and at advanced rates. A large business has also been done in sound progressive mines. East Carn Brea shares have not been so firm as they were last week, but several others have been in request, and have advanced, especially such as Greenville, South Caradon Wheal Hooper, Wheal Harriett, North Roscar, Drake Walls, Wheal Uny, Wheal Grylls, East Russell, and others, which show prospects of early improvements. East Caradon shares dropped to 33, but leave off 33, 33½; the latest report shows that the counter lode in the 50 is not quite so rich, now worth 60s. per fm.; the 50 east is worth 50s. to 55s. per fm.; the new lode, in the 60 east, is worth 12s. per fm.; the 60 west is worth 20s. per fm.; Fawcett's lode, in the 60 east, is worth 12s. per fm. Marke Valley shares leave off 9½ to 10½; there is no particular change in the mine, but the ground in the 100 cross-cut is easier for driving. East Basset, 43 to 45; at the meeting, on Tuesday, the accounts showed a profit on the two months of 91s. 19s. 11d., and a dividend of 2s. per share (1024s.) was declared, leaving 83s. 4s. 9d. in hand; the stopes in the aggregate are worth 15s. per fm.; and tin, 20s.—much less than they were formerly; the new shaft, on the south lode, has improved the last fm. sinking, and is 5 ft. wide, with stones of grey and black copper ore.

East Carn Brea shares have not been quite so firm, and leave off 12s. to 13s.; the latest report states that owing to an accident to the engine on Sunday last nothing has been in the 50, but hope to get the water out by the end of the week. The 40 east is worth 3 tons of ore per fm., or 24s. The winze below the 40 east is worth 20s. tons. The winze below the 40 west is worth 1 ton per fm. The 40 east of western shaft, is worth 4 tons, or 40s. per fm. The winze below the 26 is worth 6 tons, or 42s. per fm. The 30 west is worth 3 tons per fm. Rosewall Hill and Ransom United, 3½ to 3½, ex div.; at the meeting, on Wednesday, the accounts showed a profit of 68s. 1s. 7d. on the quarter, and a dividend of 3s. per share (900s.) was declared, leaving 35s. 10s. 1d. in hand. The lode in Ransom engine-shaft, below the 115, is worth 12s. per fm. The 80 east is worth 70s. per fm. The winze under the 80 is worth 30s. per fm. The stopes are worth 30s. per fathom. The lode in the 120 east is worth from 60s. to 70s. per fm. Carn Camborne, 12s. to 14s. Drake Walls, 24s. to 26s.; the mine continues to look well, and has sampled 23s. tons of tin. Wheal Uny shares have improved, and in demand, leaving off 6½ to 6¾; at the meeting the accounts showed a balance against the company of 1940s. 3s. 10d., and a call of 5s. per share was made. The report states that tin ground enough has been discovered to keep 80 heads of stamp going for several years; and when an extra 16 heads are at work the returns will considerably increase. The indications at the East Carn Brea copper lode are also very encouraging, and hold out good prospects. Upon this part of the set 600s. was expended during the past quarter, which, with 65s. for new boiler and other extra costs, increased the expenses by 1150s. in the three months. Clifford Amalgamated, 30 to 32. Bedford United, 42½ to 47½; at the meeting a dividend of 1s. 6d. per share was declared, and the estimated balance of receipts over expenditure for the next meeting 1290s. 6d. Great Wheal Fortune shares have advanced to 20, 21; a good improvement has taken place in the 78. Cook's Kitchen shares have advanced to 32½ to 33½. Craddock Moor, 29 to 31; Devon Great Consols, 41½ to 47½; at the meeting of directors, on Friday, a dividend of 8s. per share (8192s.) was declared for the profit of two months. East Russell shares have advanced to 3½, 3½. Grampier and St. Aubyn, 13½ to 14½. Great South Tolgus, 3 to 3½; the lode in the 140, east of Lyle's shaft, is 3 feet wide, producing rich work for tin, and worth 20s. per fm. Herodfoot, 26 to 37; Hindston Down, 24 to 24½; Lady Bertha, 15s. to 17s. 6d. West Basset, 13 to 14; at the meeting a dividend of 5s. per share (1500s.) was declared, leaving 97s. 16s. 10d. in hand. The lode in the 84, west of Grenville shaft, is worth 2 tons per fm. The lode in the 114, west of Percy's shaft, is producing good yellow ore, worth 2 tons per fm. North Basset, 3½ to 4½; North Downs, 4½ to 4½; North Roscar, 22½ to 24; North Treskerby, 19 to 20; New Seton, 57½ to 60. Tincroft shares have been rather flatter, and leave off 10 to 10½; there is no change in the mine, and from information we receive we believe this will be among the most lasting dividend mines in Cornwall. Providence Mines, 41½ to 42½, and more doing. South Caradon, 330 to 335; at the meeting a dividend of 5s. per share was declared. South Frances, 100 to 105. South Caradon Wheal Hooper shares keep firm, and in demand, at 20s. to 21s.; some very fine copper ore is being broken in the winze sinking below the 62, on the No. 7 lode, and the mine, from its situation and prospects, would seem to be one of the best speculations of the day at such a low price. South Tolgus, 52 to 54, ex div.; at the meeting a dividend of 11. 10s. per share was declared. The prospects at the mine continue favourable. Stray Park, 30 to 31; Tamar Consols, 29s. to 31s.; Tolvadden, 3 to 3½; Tren-crom, 3½ to 3½; Wendron Consols, 12 to 13. West Caradon shares not quite so firm, as to 38 to 40. West Frances, 10½ to 11½; West Rose Down, 13½ to 14½; West Seton, 270 to 280; West Tolgus, 29 to 31; Wheal Basset, 100 to 105. Wheal Grenville shares advanced to 58s. 60s., but have fluctuated, and leave off 57s. to 59s.; the rise in the 110 west is worth 25s. per fm. The 100 end west is worth 1 ton of good ore per fm. The new lode in the 80, east of cross-cut, is worth 30s. per fm. for tin. East Grenville shares advanced to 32s. 6d., 35s., and leave off 31s. to 33s. Great Ratlack, 10s. to 12s.; the 53 east, going back under the blonde, looks very promising for lead, and an improvement is anticipated.

Wheal Harriett has had a rise from 18s. 20s. to 27s. 6d., 32s. 6d.; a new lode has been cut in the adit cross-cut, about 40 fms. north of engine lode; it is 2 feet wide, and worth 25s. per fm. This is supposed to be Clarke's lode of Carn Camborne. West Condurrow

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Notices to Correspondents.

* * Much inconvenience having arisen, in consequence of several of the numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt; it then forms an accumulating useful work of reference.

COFFER SMELTING IN CUBA.—I observe that, in your last week's Journal, you state that Mr. F. Bankart has been appointed to superintend the Cobre Company's smelting operations in Cuba; and you further state that, should they prove successful, nearly the whole of the ores will ultimately be smelted there. Now, I certainly cannot see the advantage of this, unless there be coal mines in the island, which I am not aware of. The most that the company could profitably do is to send over as many cargoes of coal to Cuba as they have cargoes of ore to bring back. This, I believe, is really their intention, as it would be unprofitable to send coal to Cuba to smelt poor ores, if no return freight be obtainable, as to bring the poor ores to this country. —VAGERO.

EAST KONGSHENG NATIVE SILVER MINING COMPANY.—As I am desirous of preparing a history of this company, from its introduction to its present state, with a glance at its prospects—I shall be glad to enter into correspondence with any parties likely to aid me by information. I wish for copies of all reports and documents that have been issued, by projectors or directors, which shall be carefully returned to those who may kindly forward them to me.—S.

DAMAGE TO LAND THROUGH COLLIERY WORKINGS.—An interesting case, heard at the recent Staffordshire Spring Assizes, is referred to in your local correspondent's letter of last week, where Messrs. Groucutt and Sons proved that the damage to the surface was not, as alleged, caused by their workings, but was the natural result of subterranean fire that had been raging in the neighbourhood for years, in fact so well known that certain holes in the surface enjoy the popular appellation of the "fire holes." Even the plaintiff admitted the well-known existence of this fire, and only sought to show that the subsidence arose from another cause—Messrs. Groucutt and Sons' workings. Can any of your correspondents state the origin of this fire, how long it is known to have been burning, and what is the nature of the strata which is being consumed?

—D. R. S.

EAST CARN BHEA MINE, AND ITS LONDON MANAGEMENT.—Will you kindly allow me, through the medium of your valuable Journal, to complain (with my brother shareholders) against such practices as are just now set on foot by those parties who have the managing this mine, in preventing any shareholder from visiting his property, or sending his agent to ascertain its real position in any other form than sending, perhaps, 300 miles to the office, and in too many cases find themselves a little too late. This mode of business should be at once abolished for the advancement of legitimate mining, as such a course cannot fail to invoke suspicion, and depreciate the value of the property. Why should it be supposed to be disadvantageous to the operations of the mine for any party to accompany the agent when he inspects the different workings in order to give the official report?—A SHAREHOLDER.

THE BRYN GWION MINE.—We cannot insert the letter of "A Looker-on."

EAST CLOCAU GOLD COMPANY.—"A Mine Agent" should address his communication to the directors: we could not publish such a statement, especially without the writer's name being attached.

Mr. Ennor's absence from town prevents him from publishing his finishing letter on the "Geological Formation of the Earth" this week. It was not Mr. Ennor's intention to notice any one letter until all his remarks were before the public; but he will briefly reply to "W. T.," "B. H.," and "W. B." next week.

WELSH GOLD MINING.—I have read with great interest the several letters that have emanated from Mr. Goble respecting gold in Merionethshire, and do not wish to doubt his experience and knowledge in mining matters, more especially in gold mining, in which it appears he would wish the public to believe he is a proficient. Mr. Goble must, however, allow the public to doubt that all the auriferous areas will repay the purchasers, though Mr. Goble says in his letter that well will it repay them. I wish it may; but the best proof will be when the parties attempt to extract the gold. If he is the inventor of a process for extracting gold from sulphurates, &c., as he stated some time since that gold existed in a form of which the moderns are ignorant, though the ancients were acquainted with it), I shall be most happy, as will be hundreds of the mining community, to see the process in full operation, and hope that it will be as beneficial to himself as it will be to the proprietors of what is now waste and useless heaps of rubbish.—A. WELL-WISHER TO MINING.

STUDY OF GEOLOGY.—H. P. (Carliole).—Amongst the works most likely to suit are "Chart of Fossils," 6s.; "Phillips's Geology," 12s.; "Page's Geology," 6s.; "Mantell's Wonders," &c., 2 vols., 12s.; "Mantell's Medals," 2 vols., 12s.; "Mantell's Pictorial Atlas," coloured, 45s.; and "Woodward's Fossil Shells," 5s. 6d. Page's is considered to be one of the best elementary works on the subject.

ERRATUM.—In last week's Journal, p. 187, one line was so misplaced as to alter the sense of two letters—the top line of the third column should have been made the first line of the second column. The reading will make this evident; but our subscribers should mark the correction, that the letters may read correctly in the volume.

* * With last week's Journal we gave a SUPPLEMENT SHEET, which contains papers on—Penetrating Dangerous Gases—Geological Formation of the Earth (with Engravings)—The Principles of Geology.—Reviews: "Down South: an Englishman's Experience at the Seat of War;" "The Famine in the West: being an Enquiry into Causes of the Crisis impending in the West of Ireland."—The Evidence of Mr. J. Kenyon Blackwell on the Gethin Colliery Explosion—the Australasian Mining Intelligence—the Mining District in which East Wheal Seton is situated (with plan)—Meeting of the North Laxey Mining Company.

* * With the MINING JOURNAL of March 1 we gave a SUPPLEMENT, which contains:—Steam Regenerators (with Engraving)—The Geological Formation of the Earth—England's Position: the Miners, Mining Schools, and Chemistry—The Principles of Geology—Heat-Conducting Powers of Amalgams—What is Good Iron, and How is it to be Got?—On the Impurities of Commercial Zinc—Wicklow

Copper Mining Company—Glan-y-Pwll Slate and Slab Company—Great Wheal Martha Mining Company—Pendeen Consolidated Mining Company—Successful Mining—Wilde's Ventilator—New Gold Mining Machinery—Plan of the Seton District: Map showing the Relative Position of the Seton Mines, and others adjoining.

themselves obtain an injunction against the Newcastle Committee for misapplication of the money given to them? This Committee has set up its indefensible doings by lodging, or agreeing to lodge, 20,000*l.* money in the Newcastle and Carlisle Railway debentures.

THE MINING JOURNAL Railway and Commercial Gazette.

LONDON, MARCH 29, 1862.

This week has been an eventful one in connection with mining properties—two collieries which have occupied a prominent position having been offered for sale by public auction. The first of these was the Risca, the sale of which was ordered by the MASTER OF THE ROLLS, and entrusted to Messrs. FULLER and HORSEY. The property, as most of our readers are aware, is situated in the parishes of Mynyddyswyn, Risca, and Machen, in Monmouthshire, about 6*½* miles from Newport, with the docks and wharves of which place the colliery is in direct railway communication—the Western Valleys Railway running through the property. Vessels drawing not more than 22 ft. of water can load in the docks at Newport, whilst those up to 400 tons register can lie and load alongside the wharf. The property covers an area of upwards of 1600 acres, beneath which are four valuable seams of coal, of the aggregate thickness of 28 feet. The Black Vein, to which such an unenviable notoriety has attached through the explosion, is the most valuable, being a first-class steam coal, and is well known in the market; it is also upon the Admiralty list. The seam is nearly 9 feet thick, and at the present time about 90,000 tons of coal per annum are being raised from it. The Rock Vein is a steam coal about 4*½* feet thick, and is used, as also is the Black Vein coal, by the Royal West India Mail Company; from the Rock Vein there are also about 90,000 tons per annum being raised. The Big Vein, which is about 12 ft. thick, and yields a coal well adapted for the making of coke, or for general manufacturing purposes, has not yet been worked, but when thought desirable can be worked simultaneously with the Black Vein. In addition to these there is the Sun Vein, from 2*½* to 3 ft. thick, which is also unworked at present, but contains an excellent house coal.

The terms upon which the various rights to work the minerals were held—1028 acres, leasehold, at 75*7* fixed rental; 330 acres, leasehold, at 50*0* minimum fixed rental; 130 acres, freehold; and 167 acres, copyhold—were well explained by Mr. HORSEY, and the advantages which must accrue to the purchaser carefully pointed out. In 1854 the property was sold by Mr. J. RUSSELL to the present proprietors for 130,000*l.*, and as it was bought by men of business no question could be raised as to its being worth the amount paid; in consequence, however, of a trespass having thrown the concern into Chancery, and of the difficulties being still further increased by the lamentable explosion which occurred in the colliery, the property was thrown into the market, and was offered in full working order, and making a profit of 10,000*l.* per year under the official manager. He did not expect to get 130,000*l.* at the present time, but calculating the profits at 7*½* years' purchase, which was giving 16 per cent. upon the outlay; the royalties to pay 7 per cent.; the leaseholds, 4 per cent.; the houses, 10 per cent.; and value of entire machinery and plant at 5000*l.*, they would find the value to exceed 100,000*l.* For this outlay Mr. GREENWELL estimated a profit of 932*6*. 6*8*. per annum during the first 11 years, and 11,400*l.* per annum during the remaining 23 years which the leaseholds had to run. Indeed, from the results at present being obtained it is proved that the coal from the Black Vein can be raised and delivered at the wharf for 7*½*. 2*½*. per ton, that from the Rock Vein at 6*½* 2*½*. and that it was readily saleable at 9*½*. per ton. And in the cost of working which he had named there was at least one item which would be reduced. The men are paid 1*½*. a ton more for cutting the coal because the seam was considered fiery, though at present the danger, owing to improved management, was more apparent than real, and he (Mr. HORSEY) was told that some of the men were earning between 3*½* and 4*½*. per week. Notwithstanding the many inducements held out, however, no bid was made for the property, and the auctioneer announced that private offers would be accepted for it from any who were disposed to purchase.

Upon the same day, and at the same hour, Messrs. FOX and BOUSFIELD offered the Llanharry Hematite Iron Ore Mine, in Glamorganshire. The property, which was held under the original lease, subject to a sleeping rent of 300*l.*, has been underlet to a limited liability company, and mortgaged by them for 5500*l.*, and the sale was now ordered by the mortgagee. The value of the investment will be clearly understood from the following statement, showing the rents and royalties paid respectively by the original lessee and by the Llanharry Hematite Iron Ore Company:

Original lessee.	Company.
Sleeping rent—	£1050
Royalties on—	1500 second year, and 2100 per year after.
Coal, per 2240 lbs.	7 <i>½</i> . 9 <i>½</i> .
Argillaceous ironstone.	1 <i>½</i> . 1 <i>½</i> .
Other ironstone and hematite.	2 <i>½</i> .
Limestone.	7 <i>½</i> .
Fire and common clay.	8 <i>½</i> .
Bricks, per 1000.	1 <i>½</i> .
Lead ore, or selling price.	1 <i>½</i> 1 <i>½</i> .
Other minerals.	1 <i>½</i> 1 <i>½</i> .

The company are now working the mine and raising ore, and have mortgaged their lease for 5500*l.*, as already stated. The purchaser was offered the benefit of that mortgage and the money thereby secured, yet no bid was made. Messrs. FOX and BOUSFIELD also submitted for sale an undivided moiety of the Waste Bank Farm, at Oldswinford, Worcester, containing about eight acres; and the minerals beneath which had been favourably reported upon by Messrs. SKIDMORE, of Stourbridge, who estimated them at 5210*l.* per acre. The biddings commenced at 500*l.*, and the lot was finally sold at 750*l.*

THE HARTLEY RELIEF FUND, AND ITS MISAPPLICATION.

[FROM A CORRESPONDENT.]

After a close scrutiny into the condition and number of the bereaved families at Hartley Pit, it appears there are 145 adults requiring relief from the public fund, and 287 children, making a total of 432. For these the Newcastle Committee, entrusted under the solemn bond of an unparalleled misfortune, to distribute justly and faithfully the public money raised especially for that purpose, give weekly less than 70*l.*, or not quite 3*½*. 3*½*. per head. Magnificent display of sympathy, dwindled down to starvation point. The widows who have been left, there can be little doubt, will seek and find better protection in fresh marriages; and the children, or at least four-fifths of the 287, will grow fewer and fewer every year, until within the next twelve years they will, by death or occupation, be nearly all off the list of this Relief Fund; leaving, probably, more than 50,000*l.* surplus. The Newcastle Committee have assumed to themselves the power of predisposing of more than one-half of the money subscribed for a special purpose, and for particular persons, to other purposes and different persons. They have, without your authority or mine, taken your money and mine, without our wishes and against our instructions, and transferred it, or passed a resolution to transfer it, from H. to whom we specially gave it, to D and N, to whom we never contemplated to give it, and who may never require it. That is, they are accidentally the agents of our subscriptions, the Mayor of Newcastle and his associates have seized and confiscated the chief part of our funds, unjustly, illegally, and contrary to all public practice and faith.

The Mayor of London, with his usual good sense, entered his protest against it, and the Mayor of Leicester would not entrust them with the amount subscribed in his locality, but called a meeting of the subscribers, who then sent a large portion of the amount to the suffering families at Hartley Tydil. Who for the future will entrust Newcastle with their money for such purposes? Not without a more conscientious and faithful committee than now exists there.

Any professional man amongst the subscribers could, I am sure, obtain an injunction to prevent the money so generously subscribed being so selfishly and locally invested amongst the other mines, which most of them and their friends are interested in. Or is there no Member in the House of Commons independent enough to demand the interference of the Government officers to these unjust proceedings? Or, may I ask of some of your legal readers, whether the widows and children at Hartley could not

THE PROPOSED MINERS' PERMANENT RELIEF FUND.

The movement for establishing a permanent fund for the relief of miners from accidents in mines is making great progress in the counties of Northumberland and Durham. At several collieries the men have formed themselves into societies, and paid subscriptions to their treasurers; and at many others the scheme has been approved by miners resolution, and the men have pledged themselves to use their exertions in promoting the success of the movement. There is some

spelled the workmen to cease their labours. Both the shafts were then sealed up, so that no air could permeate the pit, and in that state the place now remains. It is supposed that from 60 to 70 yards of the coal has become ignited. The colliery is one of the largest in the South Yorkshire coal field, and employs rather more than 400 hands, and will be thrown out of employment by this unfortunate event. The accident is supposed to have arisen from a quantity of the refuse of the stables becoming ignited from the snuff of one of the oil lamps.

FOREIGN MINING AND METALLURGY.

The consequences of the Treaty of Commerce concluded between France and England have long been a bugbear with French producers, but they are rapidly recovering from their panic, real or pretended. The experience acquired is now conclusive, and, as we have again and again contended, the exports of French industrial establishments are abundantly convinced that they have nothing to fear from the competition of English products, and which were known as such, now make singular avowals, which are worth while to collect, if only for the purpose of comparing them with our quondam jeremiads on the late in store for French metallurgical industry. Thus the *Académie de St. Dizier* publishes, and the *Moniteur Industriel* reproduces, the following observations on the present state of the French iron market:—

"The price of pigs continues to follow an upward course, and even if it goes still higher, we shall not be surprised, for there is absolutely nothing to sell, while buyers present themselves. The rise will continue, we believe, but it will be purely nominal in its character; at least it is very improbable that purchases will be effected for delivery to be made at distant dates at the prices now attained. Never has there been a greater scarcity of pig in the market, and it is to be feared that this state of things will continue for several months, as many blast-furnaces are engaged as far as May and June. The situation puts the rolling works in a difficult position, obliged, as they are, to submit the price of pigs without being able to secure a corresponding augmentation in the prices

of their products. The language to be regarded as a frank confession of their errors on the part of French protectionists, or is it merely the first step which they are taking in the way of a radical conversion?

In a recent Journal we stated that the works on one side of the Mont Tunnel had been stopped by the discovery of a fine seam of coal. The tunnel, however, so far as we can learn, has received no confirmation, and the works on which have hitherto been conducted with considerable spirit and energy, cannot be carried through in less than six or seven years. If it should be completed successfully it will be one of the greatest wonders of the age.

Great results are expected to be obtained shortly from the coal basin of Andalusia, which a line of railway from Ciudad-Real to Badajoz will soon put in working on a grand scale. At Madrid foreign coal, and especially description of combustible consumed, now costs, in consequence of heavy customs duties with which it is burdened, 47. 18s. per ton, while the Belmér basin is enabled to use the cheap mode of transit at present in course of construction the price will descend to a reasonable and natural rate, since the coal of the basin can be made available at the pit's head at 6s. to 8s. per ton. The coal produced is stated to be comparable with the best products of English mines, while very considerable quantities can be delivered for an almost incalculable lapse of time.

Only does it appear probable—if matters are stated correctly—that the Spanish capital will reap important advantages when the Ciudad-Real and the Royal Portuguese system, so that direct railway communication exists between the Belmér basin and the capital of Portugal, it seems likely that steamships entering the Tagus will profit from the cheaper rates of combustible rendered available for consumption. The line of railway established between Cadiz and Havannah will also be much improved by the fresh stores which will be opened up; in fact, view the matter however light we may, we cannot doubt that the case affords another illustration of the solid benefits which railways are destined to confer upon Spain.

Confirmation of what has been stated previously on the subject, we may

conclude that a great firmness is observable in the prices of irons and pigs in Asturias, orders also coming in tolerably freely. The various estab-

lishments have orders for several months to come, and everything induces

conclusion that the siderurgy of the neighbourhood will have a good

season. Prices have undergone little change. The coal market

is very quiet, but the production having been much reduced prices remain

as previously indicated.

A company has been formed for working a colliery at Quiros, in the

province of Asturias. The company will be conducted by the pre-

ssenger of the company established for carrying on mines and foun-

ders in the province of Santander, which is interested in the working of

the property to the extent of 21,000*l.* The capital proposed to be

40,000*l.* of which 8000*l.* remained to be subscribed at the close

of the week.

The annual general meeting of the Loire Mining Company has just been

held. The accounts for 1861 showed a profit of 39,625*l.* out of which the

administration recommended a dividend at the rate of 10*s.* per

for the year. This is the same rate of distribution as was made for

The dividend now declared leaves a balance of 1225*l.* which has

been added to the reserve fund, now increased to 10,516*l.* A proposition

by the council of administration for further increasing the reserve,

to provide for a replacement of the shares, has been adjourned

present.

The French metal market a reduction in copper to the extent of 47. 10*s.*

is noted on the part of English founders. This reduction has

been accepted in some

countries arising out of important orders received from Italy and India.

English copper has been almost entirely wanting from the market,

as it has realised 90*l.* and Lake Superior 104*l.* per ton.

The quotation at Paris is supported without change, Banca standing at 132*l.*

12*s.* and English at 122*l.* per ton. There is much inactivity

for lead, not merely at Paris, but in the principal conti-

ents, and the dullness is stated to have induced English founders

to cease their prices.

METALLURGY AT THE GREAT EXHIBITION.

Prominent amongst the

attractions is a gigantic piece of shafting, forged at the Mersey Steel

Works; it weighs 25 tons, and was brought to the ground by

a truck weighing 10 tons. An object of interest will also

be a marine engine of 600-horse power, constructed by Messrs. Penn

for one of the Spanish frigates now building in this country.

It will be situated in the crank-shaft of the engine of 1250-horse

power by the same firm for the *Achilles*, iron-plated frigate,

weighing 25 tons; and by the side will be placed one of the enormous

machines, which is something new for the parish of Wendron.

This mine is situated in the kilns, about 300 fathoms to the south of the main granite range, and as yet has only been explored to the depth of about 40 fathoms

from the surface. The lode, which has a gossan back, bears due east and west, underlying north about 20 inches. It was explored by the old men

by a shallow adit, driven a long distance, and worked away for tin, which

made in the gossan. The present working was commenced for tin, and a

good run of tin ground was met with between the adit and the 13 fathom

level; but this has given place to copper, which has made for upwards of

20 fathoms in length in this level. In a winze in the bottom, sinking to

the 23, there is really a fine course of yellow copper ore; and if this should

be found to continue to the next level, the 33 (the driving of which has

just been commenced), the occurrence of copper ore in remunerative quantities in Wendron parish will become an established fact. Such a thing

would, of course, be contrary to all our preconceived notions; but the character of the lodes and strata, and their geological position within a moderate distance of a granite range, are not such as to render it absolutely improbable. The result of the next level or two at Treworl is, of course, to be watched with much interest; for, if the lode in that mine should

continue to make copper, a new source of industry will be opened out in

the district, for there are numerous lodes of a similar character in the im-

mediate neighbourhood, lying between the granite and a great range of

greenstone rock which skirts it to the south. The result is, of course,

eminently speculative, as all new districts necessarily are; but the manager,

Captain Burdon, and other agents of experience, are very sanguine of the

copper continuing in depth; and, for my own part, I can see no good

reason to the contrary, except that it has not been found to do so before

in the district. In the case of one mine, worked many years ago in the

neighbourhood, a deposit of grey ore was met with, which made consider-

able returns, and is said to have given a good profit.

The most prominent mine, however, in the Helston district at present is

GREAT WHEAL FORTUNE, where there is a splendid course of tin on the

Carnmeal lode; this is a fine lode, one of the champion ones of the dis-

trict, and the fine discoveries made on it in Great Wheal Fortune must be a great encouragement to the adventurers in Wheal Sithney and Carn-

meal, who are working on the same lode on the other side of the bottom.

chinery. The western annex is divided equally between British and foreign exhibitors. The French occupy the west, or extreme left; next to them come the Austrian exhibitors, then the Belgian, and finally those from the Zollverein, thus taking up the four avenues of which the annex is made in the northern half. Very little has yet been done towards arranging the foreign goods. The heaviest among them will be some engines of 60-horse power exhibited by the French, and a marine engine with a large four-bladed screw. The steam required for the machinery in motion will be supplied from six boilers, 30 ft. long and 6*1/2* ft. diameter. These are fitted with Clark's patent smoke-consuming apparatus, the principle of which consists of throwing abundant supplies of air into the furnace by means of jets of steam. The chimney-shaft of the boiler-house is 75 ft. in height, and from the precautions which have been taken, and the proved efficacy of this mode of consuming smoke, it is anticipated that not the least annoyance to the neighbourhood will be caused by smoke from the furnaces. The pipes for conveying the steam to the engines are laid, as well as the pipes which are to carry away the waste steam, which will not be allowed to escape into the building, as was the case at the Exhibition of 1851. The whole of the machinery is under the superintendence of Mr. Clark.

MINERAL SPECIMENS FOR THE EXHIBITION.—Mr. W. H. Rowse has collected numerous valuable specimens, obtained from the different mines in the neighbourhood of Tavistock, which are about to be dispatched to Mr. Robert Hunt for exhibition. The principal among them are red and green oxide, from East Russell; copper ores from Clitter's Adit; gossans from South Bedford; lead and copper from Wheal Creake; iron ores from Trebures; tin and wolfram ores from Kit Hill Mine; tin ores, iron flint, and old tool heads from Birch Tor and Vitifer, Dartmoor; alphonates, fossils, sulphate of copper, decomposed lime, &c., from Wheal Hamblyn, Bridestow; and tin and copper ores from Mary Emma, Dartmoor. Some beautiful specimens have already been sent from Devon Great Consols.

GEOLOGICAL SOCIETY OF LONDON.—March 19.—Prof. A. C. Ramsay, President, in the chair. J. Elliot Square, Gresham House, London; Ernest Shelley, Winchester; Edward Romilly, Stratton-street, Pudding-lane; the Right Hon. Edward Cardwell, M.P., Eaton-square; George W. Stevenson, F.S.A., C.E., Halifax; George W. Hemans, C.E., Leinster-gardens, Baywater; and Harvey B. Holl, M.D., Mavern, were elected Fellows. The following communications were read:—

1. "On the Sandstones and their Associated Deposits in the Valley of the Eden, the Cumberland Plain, and the South-east of Dumfriesshire"; by Prof. R. Harkness, F.R.S., F.G.S.—2. "On the Date of the Last Elevation of the Central Valley of Scotland"; by Archibald Gekie, F.R.S.E., F.G.S.

The next meeting will be held on April 2, when the following papers will be read:—

1. "On some Remains of Chiton from the Mountain Limestone of Yorkshire"; by J. W. Kirkby, communicated by Mr. T. Davidson, F.G.S.—2. "On the Occurrence of Mesozoic and Permian Fauna in Australia"; by the Rev. W. B. Clarke, F.G.—3. "On some Reptilian Remains from the Coal Measures of the South Joggins, Nova Scotia"; by Prof. Owen, F.R.S., F.G.S.—4. "On some Fossil Foot-prints from Hastings"; by Mr. A. Tylor, F.G.S.

MANCHESTER GEOLOGICAL SOCIETY.—At the monthly meeting, on

Tuesday (Mr. Joseph Dickinson, F.G.S., President, in the chair), it was

announced that the society had an offer of selection from the collection of

fossils and mineral specimens belonging to the late Mr. William Peace, one

of their old and valued members. The collection was a very valuable one, and the offer

had been made by Mrs. Peace and Mr. Maskell W. Peace. The offer was accepted, and a vote of thanks was unanimously passed to the donors. The President read a second paper by Mr. J. J. Atkinson, Her Majesty's Inspector of Mines for the South Durham District, "On the Friction of Air in Mines." The first paper was read at the last monthly meeting of the society. Both papers dealt with the important subject of airways, and contained an amount of valuable statistical information. The unanimous thanks of the society were given to Mr. Atkinson for his contributions, which were especially recommended to the consideration of underlookers and young colliery managers.

—Mr. George Charlton, general manager of the Dukinfield Colliery, said the papers were

the most valuable yet laid before the society, as containing a full and complete view of

the atmospheric laws affecting mines. The President and the papers would form a more useful book of reference than any hitherto published on the ventilation of mines. He

knew of no elementary treatise in which the subject was so well brought forward, and in which so many tables were given. They would prove of the greatest value, not only to beginners, but to persons of mature experience. The papers were, indeed, so thoroughly useful, that they would be published, and sold to the general public, instead of being restricted to the members of the society. The true principles of ventilation were too little understood by colliery men generally. A brief conversation took place, and it was resolved that a full discussion should be postponed to a future meeting. Mr. John Atkinson, honorary secretary, read a communication from Mr. T. T. Wilkinson, F.R.A.S., "On the Friction of Air in Mines," being a supplementary essay to a paper "On the Ventilation of Mines," read at a previous meeting by Mr. J. Goodwin. After a few ob-

servations from the President and Mr. Goodwin, the proceedings terminated

REPORT ON CORNWALL AND DEVONSHIRE.

[FROM OUR CORRESPONDENT IN TRURO.]

MARCH 27.—The position of the MINERS' ASSOCIATION in these counties is a matter of some interest. Its final success can scarcely be said to be yet decided, but its position has undoubtedly improved recently, and the chances at present are in favour of its taking a permanent position. On Tuesday last a meeting was held at Helston, for the purpose of establishing a class

in that district, when one of the teachers, Mr. Pearce, gave a lecture on the Chemical Properties of the Useful Minerals. The chair was taken by Mr. Frederick Hill, who was supported by all the leading mine agents of the

Wendron, Breage, and Sithney districts; and the attendance of working miners was very numerous. On the whole, I believe it is considered

to have been one of the most successful local meetings yet held, for in no other districts have the agents given such a unanimous adhesion; and it is

to the support and countenance of the mining agents of the county that the Association has to look for success. It must, of course, depend in a

great measure, on the support of the gentry and professional classes for contributions to provide means to carry out an educational movement of

this kind, which, if established, is expected so materially to raise the position of the mining classes; but it is only the support of the agents that can

make it finally successful. If the mine agents in the various districts

in the county were to take as active an interest in its advancement as did those who assembled at Helston on Tuesday evening, its success

would be an established fact. But this is far from being the case, for in

many districts—and some of the most important—it has been met with

complete indifference. This has been the case in Camborne, for instance, where it has been found impossible to get up a class. This case is the

more remarkable, inasmuch as Mr. Pearce, the teacher, is a son of one of the Dolcoath agents, and the Association has received the support of</p

ing its first working, was very rich, having given nearly 100,000 profit. My guess is that this district will, ere long, be equal to the best in the county, and that the Burra Burra, before many months elapse, will be eagerly bought at a high price. The company is highly respectable.

BRYNAMBOR MINE.—The course of ore in the winze under the adit yields a highly remunerative quantity of ore as the lode is opened upon, both to the west; this shows that the length of ore ground still extends east and west of the adit workings. The frosty season is now over, and the girls are dressing the ore we shall shortly have a parcel in the market. The 20 fathom level has not yet come, but we calculate that it will reach it in a fortnight, which will add greatly to the value of raising the ore and working the mine upon the best principles of modern mining. I shall then expect to see Brynambor one of the best mines in the district.

THE PRINCIPLES OF GEOLOGY.

organic agencies contributing to the production of sedimentary strata is the subject of Prof. Morris's next lecture, at University College. Agencies comprise the effects produced by the animal and vegetable. The principal facts connected with the habits, distribution, and of terrestrial, freshwater, and marine animals have an important on the subject under consideration. Although the remains of the order of animals—the vertebrates—are frequently found preserved in certain conditions, he would on the present occasion refer chiefly to the lower forms of animal life, or the invertebrates. They are divided into four groups, or sub-kingdoms—mollusca, or the shell articulata, or the lobster tribe; zoophyta, or corals; and protozoa, sponge tribe—each of these has contributed to the formation of strata. We have freshwater, land, and marine species. In lakes, the coverings of freshwater species, abounding in individuals, form deposits, or by their decomposition beds of shell-marl, assisted by springs, and which become occasionally intermixed with casts of entomostraca, the seeds and stems of chara, and other aquatic where the latter are abundant, layers of peat-clay may also accumulate. Again, we have shelly deposits in rivers, and as mineral is also brought down with the stream, we may have alternations of mechanical deposits; or, if formed in an estuary, alternations of marine and freshwater strata. In the sea, again, the deposition of shells readily carried on. On our own coast there are four zones of animal—the littoral zone, extending between high and low water; the marine, extending from low water to about 90 ft. deep; the coralline, in zoophytes, radiata, and carnivorous mollusca, extends to the of 300 ft.; and the coral zone—this is, however, local, and contains each of these zones contains shells of mollusca, crustacea, and so on; as they die so each zone would present a different assemblage, disturbed by tidal action, which may sometimes carry them away, the remains in other deposits. On many parts of the British coast line is covered by thick accumulations of finely-broken, and in some instances to such an extent, that it has been estimated of Devon and Cornwall have yielded annually 5,000,000 cubic this comminuted shell-sand for the purpose of manure.

turn to another class of animal life, as the sponges, we shall find some species the skeleton is strengthened by calcareous or siliceous, and these would form further additions. The foraminifera, or calcareous, play an important part in the deposit of organic exuviae; consist of fleshy matter, or sarcod, enclosed in calcareous shells, are generally polythalamous, or divided by septa, and perforated by pores (hence their name); some genera, however, consist of a cell. The group, the polycystine, are microscopic forms, furnished with shells. The foraminifera are widely distributed, and abound in parts of the Baltic and other inland seas, and also in the ocean. The of the Atlantic consists in many parts of deposits 14 or 15 ft. thick, entirely composed of foraminifera. In the ocean survey for the telegraph, the mud brought up by soundings yielded 50, 60, or species of foraminifera, so you will perceive their remains contribute to the formation of sedimentary matter. The white chalk and strata contain many species.

the important class is that of the corals, or polypifera. These minute secrete a calcareous skeleton, in which they reside, chiefly formed of lime, and a small proportion of carbonate of magnesia, slight admixture of other substances. The rock-building corals in the eastern seas are scarce; but they abound in the Pacific Ocean, between the south and north of the equator, and rarely extend beyond the tropics. There are few coral reefs in the Atlantic, these few being in the West Indies, Bermudas, the most northern coral reef; they are numerous in the Red Sea, and occur in the Arabian and Persian Gulfs, and Indian Ocean. According to MM. Coutouy and Dana, temperature appears to influence growth, about 70° Fahr. being most favourable, the absence of coral in the western portion of the Pacific being attributed to the cold current that occurs there, and reduce the temperature of the sea. The coral have been classified, according to their form and structure, into or encircling reefs, atolls or lagoon islands, and fringing or shore reefs. The barrier reefs are those which encircle any mass of land or skirt the coast, but always separated by a wide channel from the main land. The depth of the included channel varies from 10 to 25 fms., and in parts even more. The barrier reef of New Caledonia is 400 miles long, and from 20 to 40 miles distant from the coast. The circular reefs, enclosing a sheet of water in the centre, and are not extensive of the coral islands. This form includes the numerous which trend north-west in the Pacific from the Low to the Archipelago; some occur in the China sea, and others, as the Malacca, and Chagos Islands, in the Indian Ocean. Fringing reefs are those which border the main shore or surround and have only a narrow channel between. They occur in the Indies, on the east coast of Africa, Madagascar, Mauritius, in the Indian, and Sandwich Isles in the Pacific, the two latter areas being the of present volcanic action.

coral insect scarcely ever builds below 120 to 130 feet deep, but the coral extends in many islands to a far greater depth—probably 1000 feet. As some other cause must consequently have been in action on this result, Mr. C. Darwin (to whose valuable researches on object geologists are deeply indebted) has suggested that atolls and reefs have arisen from the gradual depression of the foundation on which the coral was primarily attached. Supposing, for example, gradual subsidence to take place in a coral-growing area, the fringing reef would subside with the island itself, and, the upward growth of the coral being continued, a barrier reef would be first formed, and subsequently an atoll or lagoon island. In these reefs it is found that forms of corals generally live on the outer and inner side of the reef, the coral becomes indurated, and sometimes converted into spathosites, in which all trace of structure is obliterated. The reef is also strengthened by means of the mollusca and echini, which among them, their remains and fragments of coral, broken and worn action, being subsequently consolidated by calcareous matter, the fine sediment in the lagoon may be partly derived from the excretions of the scari and holothuria, which feed upon the young coral. Fringing reefs have been produced in another manner—they have consequence of growing round islands in course of elevation. In these, remains of corals and deposits of shells occur far above the coal, abundant in corals; and in the secondary strata we are taking their names from corals, as, for example, the coral rag of the series; they are less frequent in the cretaceous and tertiary. The corals below the coal belong to a different type to those above, the latter being more analogous to existing groups.

The study of the vegetable kingdom affords assistance to geological

researches, as this also contributes to the formation of strata. Plants in fresh water, and the sea, and may become embedded under conditions. The submerged forests are one example, and the peat bed another not less important. The origin of these beds may have from the destruction of trees, and the formation of marsh land, on which a most abundant plant in existing bogs. It is not unfrequent to find peat covering shell-marl, so that we have one stratum of

animal and the next of vegetable origin. At Drumkelin, in Donegal, there is a bog 30 feet thick, where, in 1833, a cottage of some size was found 16 feet below the surface, and surrounded with trees, &c., in their natural position. The Irish bogs cover a surface of from 2,000,000 to 3,000,000 acres, and contain the remains of animals and trees, frequently in a good state of preservation. The Dismal Swamp, a peat bog noticed by Sir C. Lyell, on the borders of North Carolina and Virginia, is 40 miles long and 25 miles wide, and solid enough to nourish a fair vegetation; the cypress, cedar, juniper, ferns, and other trees are found there, among which live the bear and the wild cat, and occasionally some other animals. These bog-deposits may explain to some extent how during the coal period large portions of vegetable matter may have accumulated, and become so consolidated as to form the present beds of coal. We have evidence in them that they were derived from plants that in many cases grew on the spot. The celebrated rafts on the Mississippi, described by Darby as sometimes reaching 10 miles long, 220 yards wide, and 8 feet thick, might also afford an explanation of the formation of strata, for these being successively deposited with mineral accumulations, would produce an alternation of organic matter with mechanical deposits. The Professor concluded by observing that he had attempted to bring before the students some facts connected with the conditions under which the preservation and entombment of the remains of plants and animals may take place, so as to assist in explaining more correctly the mode by which the fossiliferous strata may have been accumulated at different geological periods.

"The Exchange" is the title chosen for a new monthly, the first number of which is now before us, and contains articles of a very useful kind. It contains articles, entitled Mexico, and the Intervention; the American Conflict—the Claims of the South; Legal Securities for English Settlers and Capital in Bengal; the Resources of Canada; the Riddle of Australian Politics; Our Collieries; Cotton; Foreign Exchanges; the Commerce of Great Britain; and a vast amount of valuable miscellaneous information, reviews, &c. The magazine is at once commercial, industrial, and political, and if we may judge from the article, "Our Collieries," will also be acceptable as a Mining Review. Being published by Messrs. Sampson Low, Son, and Co., it will not, probably (like many similar publications which have preceded it), cease to appear after a few months miserable existence, and "like the baseless fabric of a vision, leave not a wreck behind." "The Exchange" will, we doubt not, be appreciated by the mining and industrial communities.

India Office.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.—Notice is hereby given that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before MONDAY, the 7th April next, to RECEIVE PROPOSALS in writing, sealed up, from such persons as may be willing to SUPPLY—

COPPER SPLIPS.

And that the conditions of the said contract may be had on application at the India Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 7th day of April, 1862, after which hour no tender will be received. GERALD C. TALBOT, Director-General.

GRAND RUSSIAN RAILWAY COMPANY.—TENDERS are INVITED for a SUPPLY of TWO MILLION SIX HUNDRED THOUSAND PODS, or FORTY-ONE THOUSAND SIX HUNDRED TONS, of large COAL, for railway engines. The coal will be required by this company during the years 1862 and 1863, for their St. Petersburg, Warsaw, and Prussian Frontier Line. The coals must be delivered, carted, or stacked at the following places:—

600,000 pods at the St. Petersburg station.

1,300,000 pods at the Kowno station.

700,000 pods at the Warsaw station.

Tenders will be received for each of the above quantities, or for the full quantity required.

Specifications and forms of tender may be had on application in writing to Messrs. BARING BROTHERS and Co., 8, Bishopsgate-street, Within, London, and must be accompanied by a deposit of 5 per cent. as a guarantee for the due fulfilment of the contract.

FALMOUTH DOCKS.

TO IRON SHIPBUILDERS, IRONFOUNDERS, AND OTHERS—WROUGHT IRON CAISSON FOR NO. 2 GRAVING DOCK.—The Directors of the Falmouth Docks Company are PREPARED to RECEIVE TENDERS for the CONSTRUCTION and DELIVERY of a WROUGHT IRON CAISSON, the drawings and specification of which can be inspected, and any other information obtained, at the offices of the Docks Company, at Falmouth; or of JAMES ABERNETHY, Esq., M. Inst. C.E., 3, Parliament-street, Westminster, on and after the 31st day of March instant. A printed form of tender will be supplied, which must be filled in and delivered at the offices of the company, at Falmouth, on or before the 18th day of April, 1862. Falmouth Docks Offices, March 25, 1862. JOHN P. BENNETTS, Sec.

TO SPELTER MANUFACTURERS.—The Directors of the GENERAL MINING COMPANY FOR IRELAND (LIMITED) APPRISE all ZINC SMELTERS that they are now in a POSITION to FURNISH in quantity REGULAR SUPPLIES OF CALAMINE, containing a high percentage of metal. The great deposit of calamine on the property of the company is the only one of magnitude known in the United Kingdom, but it is precisely similar in character to those in Belgium and Prussia. The ore is carefully dressed by the most approved machinery, and will be sold either raw or calcined, at the option of the purchaser. The quality of the spelter made from this ore is of the first-class, and is very superior to that manufactured from blende. By order, EDWARD MORAN, Sec.

LANCASHIRE AND YORKSHIRE WAGGON COMPANY (LIMITED), BURY, LANCASHIRE.—Capital, £100,000.

The above company are PREPARED to BUILD and LET FOR HIRE from TEN to ONE HUNDRED MINERAL WAGONS of the best possible construction.—For terms &c., apply to the undersigned.

J. BLOOMELEY, Sec.

OFFICES.—No. 4, BROAD STREET.

A GENTLEMAN, thoroughly competent, is OPEN to an ENGAGEMENT as CONFIDENTIAL CLERK or MANAGER in an office. He has had several years' experience in all appertaining to both manufacturing and commercial accounts at one of the most extensive iron concerns in the Kingdom, where he at present holds a highly responsible and confidential position. Undeniable references.—Address, "D. P.," Mercury office, Bristol.

CLARA UNITED MINING COMPANY (LIMITED), PONTERWYDD, CARDIGANSHIRE.—TO BE SOLD, BY TENDER, TWO HUNDRED SHARES in the above rapidly progressing SILVER-LEAD MINE. The liability of the shareholder is limited to £3 per share, of which £2 7s. is paid.—Tenders for the whole or part to be addressed, post-paid, to H. C. BEAUCHAMP, Esq., solicitor, 8, Dowgate-hill, E.C.

THIRTY SHARES FOR SALE or EXCHANGE in CARDIGAN CONSOLS MINE (LIMITED).—10,000 shares of £5 each, of which 7000 are now issued. Ten fully paid, and twenty £4 paid; no call can be made on the last until the new are paid-up equal. For prospectus see *Times* and *Mining Journal* of Nov. 30. From the agent, 17th March.—"The adit east on copper lode has improved during the last week, being worth £20 per f.m., and likely for further improvement. I believe a good deposit of lead will be met with at deeper level."—Address offers to "G.," Atheneum, Bristol.

BONA FIDE INVESTMENT.—A FEW SHARES FOR DISPOSAL in a HIGHLY RESPECTABLE and OLD ESTABLISHED PUBLIC COMPANY, paying good and regular dividends, without risk.—Address, "O. D. O." care of Mr. H. Chapman, Church-street, Hackney, N.E.

SLATE QUARRY.—TO BE SOLD, a SLATE QUARRY in CARNARVONSHIRE, conveniently situated, on veins of the best Bangor slate, now opened and producing slates of the best quality.—Address, "Quarry," care of Mr. Williams, Postmaster, Llanberis, Carnarvon.

SLATE QUARRY.—An INTEREST in an OLD QUARRY in CARNARVONSHIRE, now working, TO BE DISPOSED OF.—Apply to Messrs. FISON, TATHAM, and Co., solicitors, Frederic's-place, Old Jewry, London.

TO IRONMASTERS, RAILWAY COMPANIES, &c.—WANTED, by a young man, age 30, who thoroughly understands puddling and bailing, a SITUATION as MANAGER or INSPECTOR of RAILS, BOILER PLATE and SHEET IRON, &c. No years' unexceptionable references. Has no objection to go abroad.—Address, "W. J. H.," 7, Parchment-street, Winchester, Hants.

PARTNER WANTED, TO WORK A COPPER MINE IN ONE OF THE BEST MINING DISTRICTS IN THE COUNTY OF CORNWALL.—A GENTLEMAN, having expended about £1500 in bringing in adits, and opening on the lode, which is found productive of rich copper ore, is DESIROUS of OBTAINING A PARTNER who will advance the like sum in sinking below the adit level, where large and immediate profits may be expected, the same lode having given very large profits in the adjoining mine.—Address, "Copper Miner," *Mining Journal* office, 26, Fleet-street, London, E.C.

£1500 TO £2000 WANTED as LOAN, on SECURITY of PLANT, MACHINERY, and LEASE of a COLLERY.—The present works have cost about £10,000, and the above sum is required for the erection of additional machinery; 8 per cent. interest will be paid for an immediate advance. None but principals treated with.—Apply by letter, to Box 220, Post-office, Bristol.

BASTIER'S PATENT CHAIN PUMP.—Mr. J. U. BASTIER requires a PARTNER to ASSIST HIM in the DEVELOPMENT of his English PATENT for his CHAIN PUMP, which is proved to be ESPECIALLY APPLICABLE for MINING and MARINE PURPOSES, and is also PREPARED to GRANT LICENSES for the full term of the patent, upon favourable terms, to manufacturers or others desirous of making or selling the pump.—For particulars, address 47, Warren-street, Fitzroy-square.

EDWARD'S PATENT MINERAL ORE AND COAL WASHING MACHINE.—This is by far the MOST ECONOMICAL, both in cost and in working, as well as the MOST DURABLE and EFFICIENT MACHINE made. Complete machine, capable of washing from 25 to 50 tons per diem (according to quality), £75.—Full particulars, testimonials, &c., may be obtained from E. EDWARDS, Esq., C.E., Beaufort-buildings, Strand, London.

A MODEL may be seen at Mr. EDWARDS's office, Beaufort-buildings.

TALARGOCH MINING COMPANY (LIMITED), DYSERTH, NEAR RHYL, FLINTSHIRE.—WANTED, an EXPERIENCED SECRETARY and MANAGER, to reside on the mine. Applications to be made to the directors, on or before Wednesday, the 16th of April next.

THE GREAT MOELWYN SLATE COMPANY (LIMITED).—Notice is hereby given, that the SECOND ANNUAL ORDINARY GENERAL MEETING of shareholders in the above company will be HELD at the offices, 42, Bridge-street, Blackfriars, London, on FRIDAY, April 4, 1862, at Two o'clock precisely.

JAMES WRIGHT, Sec.

42, Bridge-street, Blackfriars, London, March 27, 1862.

TINCROFT MINING COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders in this company will be HELD at the company's offices, No. 1, Winchester-buildings, Old Broad-street, London, on TUESDAY, the 5th day of April next, at Two o'clock P.M. precisely.

Dated March 8, 1862. By order of the Board, HIRAM WILLIAMS, Sec.

SILVER VEIN MINING COMPANY (LIMITED).—Notice is hereby given, that an ORDINARY GENERAL MEETING of the shareholders of this company will be HELD at these offices, on THURSDAY, the 3d day of April next, at Twelve o'clock precisely, for the purpose of receiving a report from the directors, a statement of accounts, and for making a call of 2s. 6d. per share.

The transfer books of the company will be closed from Monday, the 24th inst., until after the meeting.

W. W. MANSELL, Manager.

Registered Offices, 3, Cannon-street, London, E.C., March 20, 1862.

ANGLO-MEXICAN MINT.—Notice is hereby given, that the ANNUAL GENERAL MEETING of shareholders in this company will be HELD at the office, as under, on TUESDAY, the 8th day of April next, when one director will be elected in the place of George Carnow Hockin, Esq., who goes out by rotation, but is eligible for re-election, and will be proposed accordingly. The chair will be taken at One o'clock precisely.

ALFRED GODFREY, Sec.

Anglo-Mexican Mint Office, 5, Broad-street-buildings, March 27, 1862.

UNITED MEXICAN MINING ASSOCIATION.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of the above-mentioned association will be HELD at the offices of the association, on MONDAY, the 25th day of April, at Two of the clock in the afternoon precisely, at which a resolution will be proposed to the following effect:—

That this meeting consents to, and approves of, the dissolution of the association pursuant to the 5th clause of its Deed of Settlement, and upon the principle of its assets and liabilities being transferred to and assumed by a new company, proposed to be formed with limited liability, under the Joint-Stock Companies Acts, and of the shares in the association being exchanged for shares in such new company.

And that a notice is hereby given, that another EXTRAORDINARY GENERAL MEETING of the shareholders of the above-mentioned association will be HELD at the offices of the association, on THURSDAY, the 29th day of May, at Two of the clock in the afternoon precisely, at which a resolution will be proposed to the following effect:—

That this meeting consents to, and approves of, the dissolution of the association pursuant to the 58th clause of its Deed of Settlement, and upon the principle of its assets and liabilities being transferred to and assumed by a new company, proposed to be formed with limited liability, under the Joint-Stock Companies Acts, and of the shares in the association being exchanged for shares in such new company.

And if that resolution shall be adopted, the directors, and an equal number of persons to be chosen at such meeting, will be formed into a committee, pursuant to the 58th clause of the Deed of Settlement, for effecting the dissolution of the association, in conformity with such resolution.

By order of the Directors, No. 5, Finsbury-circus, London, March 27, 1862.

W. M. BROWNE, Sec.

NOUVELLE MONTAGNE COMPANY.—The ANNUAL GENERAL MEETING of this company

EAST DELABOLE SLATE AND SLAB COMPANY (LIMITED).

OFFICES, 1, GREAT WINCHESTER STREET, E.C.

With reference to the published prospectus, the directors of the East Delabole Slate Company desire to make public a sketch of the prospects of the undertaking. In the preparation of this statement they have taken the lowest rate of profit, and allowed a full rate of expenditure, and they feel confident that no exception can be taken to the following figures as affording a fair estimate of profits.

Taking 20 tons of slate per day, at a profit of 12s. per ton, £12 0 0

Working days during the year taken as 260, gives per annum £3120 0 0

Deduct secretary and office expenses £150 0 0

Management of the company 150 0 0

Sundries 80 0 0 = 350 0 0

Total £2770 0 0

Deduct, as part payment to the manager of the quarry, 5 per cent. from the above £136 0 0

Leaves £2634 0 0

£2634 dividend on 2000 paid-up shares £4000 0 0

4000 shares, £1 paid 4000 0 0

Or 52 per cent. on £3000 0 0

The advantages presented by this undertaking are—1. The facility for raising and shipping the slate, no steam power being required.—2. The quality, which is good and marketable, and well fitted for splitting, the slate already raised being valued at 45s. per ton.—3. The small capital required to open out the quarry.—Vide *Mining Journal*, Saturday, March 29.

THE GREAT DAREN SILVER-LEAD MINING COMPANY (LIMITED).

Incorporated by virtue of the 19th and 20th Vic., c. 47, and 20th and 21st Vic., c. 14.

Capital £36,000, in 12,000 shares of £3 each.

£1 to be paid at the time of subscribing, and the balance, if required, by instalments of 5s. each.

BANKERS—Bank of London, Threadneedle-street.

SECRETARY—Mr. Thomas Spargo.

REGISTERED OFFICES.

224 & 226, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

The old Daren is one of those ancient mines formerly worked by Sir Hugh Myddleton, from which he derived immense profits, with the inefficient and rude machinery then employed to carry on the works. The ore raised from the lodes in this sett is extremely rich, producing upwards of 40 ozs. of pure silver to the ton, and about 75 per cent. of lead, thus taking the first place amongst the argentiferous lead ores of Cardiganshire.

This property is considered by mining agents and those competent to judge of its value to be one of the richest in the county, and it is fairly assumed, by statistical calculation, that as soon as the old mines are drained, the various levels laid open, and the Cwm-symlog lode fairly developed, a clear profit of £800 per month will be returned to the company; in fact, the refuse thrown away by the old workers is being worked over at the present time at a clear profit of 10s. in 17.

The mine is held under a lease for 21 years from the present time, at 1-14th dues. Ample machinery is already erected to bring it to a successful issue. The operations are being prosecuted with vigour, under the able superintendence of Captain Matthew Francis, and there is every certainty of its being a rich and lasting mine.

Further particulars, with prospectuses and reports, together with plans and sections, and every information required respecting the property, will be furnished on application to the secretary, at the offices of the company.

CATHEDRAL TIN AND COPPER MINING COMPANY (LIMITED), GWENNAP, CORNWALL.

Incorporated under the Limited Liability Acts of 1856-57.

Capital £12,000, in 6000 shares of £2 each.

5s. per share to be paid on application, and 5s. per share on allotment.

The remainder in calls, if required, of 5s. per share, at intervals of not less than three months, of which due notice will be given.

DIRECTORS.

Major-General BURN, Bishop's-road, S.W.

Lieut.-Col. GUMM, 21, Beaumont-street, W.

ALFRED MELHADO, Esq., Princes-square, Kensington-gardens.

H. NICOLLS, Esq., Bootle, Liverpool.

BANKERS—London and County Bank, Lombard-street, London; Messrs. Tweedy and Co., Redruth.

SOLICITOR—T. W. Parkes, Esq., Beaumont-buildings.

BROKERS—Messrs. Guy and St. Alphonse, 75, Old Broad-street.

AUDITORS—Messrs. Johnstone, Cooper, Wintle, and Co., accountants, No. 5a, Lombard-street.

CAPTAIN AT THE MINE—Mr. Joseph Webb, Redruth.

SECRETARY (at the time, Mr. J. Y. Trotter).

OFFICES, 1, GREAT WINCHESTER STREET, LONDON, E.C.

PROSPECTUS.

The lessees, having secured the necessary grants direct from the lords at 1-18th dues, have commenced to work by clearing up the adit level, to the extent of 210 fms., and have come upon seven lodes of copper and tin-bearing ore, which can be set on tribute at 6s. 8d. in 17. There exists also many other lodes running through the sett (*vide reports*).

There are likewise on the sett two shafts, sunk to the depth of 60 and 70 fathoms respectively; likewise a new engine-house, counting-house, and smithy shop—in fact, the outlay made by previous parties exceeds £5000 in value to the present lessees.

The attached reports of experienced mine agents, known as men of caution, sufficiently guarantee that the ground comprised in this sett is very valuable, and which is also borne out by reference to the map, showing the abutment of various most profitable mines upon this property, the lodes in which are known to traverse the sett, being proved on the adjoining mines; in particular, the lode of Old Wheal Damsel, which traverses the whole length of this sett, and which lode gave to the adventurers £200,000. The sett is also traversed by the principal lodes of the Great Consolidated Mines. The best copper ground in West Wheal Damsel is at present about 40 fms. to the east of the sett, and it should be borne in mind that to the westward North Wheal Basset and South Wheal Basset are in a direct run, whilst the ground at the foot of Carmarthenshire, in the centre of the sett, assimilates with the Basset district.

The lessees are at this moment offered a 50-in. engine and boiler at a very reasonable price, and on terms of payment which speak highly for the confidence in the undertaking of the seller, an engineer residing in the neighbourhood, who will likewise take a large interest in the concern.

In conclusion, the lessees would observe that they have every reason to suppose that this mine will yield large returns before the expiration of twelve months from the working of the engine. The mine is now at work, and raising tin from the adit level sufficient to pay a good dividend on the capital employed. To purchase the sett, and to pay such sum out of pocket as have been expended on the property, it has been agreed to allot to the vendor 500 shares fully paid-up, by way of consideration for the transfer to the company of his interest as lessor of the mines; and also to pay £500 in cash to cover the outlay since last April, when it can be paid without injuring the working funds of the company. To prove the esteem in which this sett is held in the locality, a considerable number of shares have been subscribed for in Cornwall, as well as by persons acquainted with the property residing in Liverpool. The remaining shares are, therefore, confidently offered to the public as stock that will long realize a considerable dividend, from the fact before stated as to the immediate raising of tin, together with what can be brought to grass by extension of labour. The reports from the most eminent mining men in England speak for themselves, proving that this mine will not be excelled by any of the great dividend-paying mines; and since these reports were given, Wheal Damsel has cut a course of copper on one of its lodes passing through this sett.

Should a sufficient number of shares not be subscribed for to justify the commencement of operations at the mine, the deposits paid in will be returned in full.

Application for prospectuses, and every information, may be obtained at the offices of the company, or the brokers.

REPORTS.

Agreeably to your request, we have this day inspected the surface of the mine, formerly known as Wheal Cathedral Mine, together with the additional ground, of about 100 fms. in extent, which has been added to the limits of the last workings, which we consider to be of much importance; and we have also made enquiries of the old workers relative to what has been done in the sett. The mine is situated in the parish of Gwennap, in the immediate vicinity of several productive mines—Consols, Wheal Jewell, Wheal Damsel, and others. It is bounded on the east by Wheal Jewell and West Wheal Damsel, on the south by Ting Tang, on the west by Wheal Treborth, and on the north by Grambler and St. Aubyn. The whole of Wheal Damsel and West Wheal lodes, and lodes from Ting Tang, East Wheal Damsel, and several other mines traverse the sett, which is about 400 fms. from east to west, and about 400 fms. from north to south, intersected by several cross-courses and seven courses, and some of the latter are canisters, which, together, add considerably to the productiveness of mineral ground. The mine was first worked by a company of adventurers in 1820, when Capt. Jennings, of Treavean Mine, was the manager, and two engine-shafts were sunk to about 60 fms. under the adit, which averages from 20 to 30 fms. from surface; but it appears that want of capital the mine was suspended. In 1855, a new party of adventurers commenced working the mine, cleared up the adit, cleared and secured the north engine-shaft from the surface to the bottom, built an engine-house, counting-house, smithy shop, and suitable buildings for working the mine, which still remain there; but before anything was done towards opening the ground on the lodes the mine was suspended, and the state in which it was left, and the erections on the surface, are very advantageous to any incoming party of adventurers. For draining the mine we calculate that a 50-in. cylinder engine will suffice, with suitable pitwork and other materials, together with the working expenses, will probably cost about £3000. We consider this sett to comprise a very important piece of mining ground, and to be well worthy of a vigorous prosecution.

JAMES POPE, Wheal Basset. THOMAS GLANVILLE, North Basset.

JOHN DAW, Carr Brea Mine. JOHN MICHELL, Grambler, &c., Mine.

April 15, 1861.—The sett is very extensive, and in a good locality for mining. The collocated lodes in the Consols and St. Day United Mines are quite parallel with the south part of Cathedral. The engine-shaft is sunk 60 fathoms below the adit level, and the adit level is 24 fathoms from the surface; the lode was expected to be cut in the 70. Copper was taken out in the 30, and also tin from the caunter lode, and there is tin now in the burrows at the engine-shaft. The lodes that have been most productive in the Consols, and other rich mines to the east, are standing now to the south of the working before described, almost, if not altogether, unexplored; and the large quantities of ore that have been returned, and the immense profits made from the mines in the east in the slate, and from Old Wheal Damsel in the granite, do make Cathedral a desirable sett to speculate on.

CHARLES THOMAS, THOMAS RICHARDS.

PATENT BITUMINIZED GAS, WATER, AND DRAINAGE PIPES.

These PIPES POSSESS all the PROPERTIES NECESSARY for the CONVEYANCE OF GAS and WATER, and also for DRAINAGE PURPOSES—viz., GREAT STRENGTH, GREAT DURABILITY, and PERFECT INOXIDABILITY;

and being non-conductors are not affected by frost, like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 ft. head of water), are only one-fourth the weight, and considerably cheaper than iron pipes. They are made in 7 ft. lengths, and the joinings are simple and inexpensive. These pipes have been in use in France, Spain, and Italy nearly three years, where the demand for them is very great. The opinions of the press on a public test at the Houses of Parliament, before a large number of engineers and other scientific gentlemen, may be had, with further particulars, at the office of the company, on application to Mr. ALEX. YOUNG, 11a, Cannon-street, London, E.C., where sample pipes may be obtained for trial.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

In the MATTER of the NEW WHEAL VOR AND EAST WHEAL METAL MINING COMPANY, and in the MATTER of the JOINT-STOCK COMPANIES ACTS, 1848, 1849, and 1858.—Notice is hereby given, that a PETITION for the WINDING-UP of the above-named company was, on the 22d day of March last, presented to Edward Smirke, Esq., the Vice-Warden of the Stannaries, by William Pickup, of Spring Hill, Accrington, in the county of Lancaster, Esq., a contributor by the said company, and Joseph Tregonning of Angarrack, in the county of Cornwall, gentleman; and the said petition is directed to be heard before the Vice-Warden, at No. 79, Grosvenor-street, Grosvenor-square, London, on Tuesday, the 8th day of April next, at Eleven o'clock in the forenoon. And all persons desirous of opposing the making of an order for the winding-up of the said company under the said Acts are to appear at the time of hearing by themselves, or by their counsel, solicitors, or agents in that behalf, and notice of such intended opposition is to be given or sent to the Secretary of the Vice-Warden, or to the Registrar of the said Court, addressed to him, at the Registrar's Office, Truro, Cornwall, on or before Saturday, the 5th day of April next.

And notice is hereby given, that a copy of the petition will be supplied to all persons entitled to oppose the said petition, and requiring the same, by the undersigned, on payment of the regulated charge for the same.

JOSEPH ROBERTS, Truro, Agent for MARCHANT and PEAD, 30, Great George-street, Westminster, Solicitors for the Petitioners.

Dated this 25th day of March, 1862.

In Chancery.

In the MATTER of the JOINT-STOCK COMPANIES WINDING-UP ACTS, 1848, 1849, and 1858, and in the MATTER of the NORTH WHEAL EXMOUTH MINING COMPANY.—Pursuant to a special order made in this matter by the Master of the Rolls, being the Judge to whose Court the winding-up of the above company is attached, the Registrar of the Court of the Vice-Warden of the Stannaries will proceed to SELL, BY PUBLIC AUCTION, at NORTH WHEAL EXMOUTH MINE, in the parish of Christow, within the Stannaries of Devon, on Thursday, the 10th day of April next, at Twelve o'clock at noon.

1.—ALL the INTEREST of the said company of and in the said NORTH WHEAL EXMOUTH MINE, under and by virtue of a certain grant or sett for 21 years, dated the 23d day of November, 1861.

2.—The undemanded MINING MACHINERY, MATERIALS, and OTHER EFFECTS, either together or in lots, viz.—PUMPING ENGINE, 30 in. cylinder, and BOILER about 6 tons, and crusher. Machine chain, 13 9 in. pumps, 2 8 in. working barrels, 2 9 in. windores, 2 9 in. door pieces, 1 short windore and matching, new timber (Norway), 2 large shovels, 2 horse whisks, 5 horse whisks, whisk rope, shears and pulleys, staples and glands, railroad iron and saddles, 5 jigging machines and sieves, 2 smiths bellows, screw taps, 11 pulleys and stands, new sieve wire, kibbles for machine, cast borers and blister steel, ore shade, grease, oil, plank, air machine, air pipes, 30 fms. ladders, metal belt, iron tram wagon, shaft, tackle and iron for bob, crab winch, wood rods, bucket rods, old timber, leather, nails, new and old iron, wheel and hand-barrows, weighing machine, anvil and vice, screw stock, smiths' tools, launders, cistern, stone dry, beam for balance-bob, axle for capstan, picks and shovels, nozzle pipes and saddle, wood flooring, saw-pit frame and wood shed, shaft gig, carpenters' bench, and a variety of other effects in general use in mines.

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VENTILATION OF MINES.

ELLIS LEVER,
WEST GORTON WORKS, MANCHESTER,
SOLE MANUFACTURER OF THE
IMPROVED SAFETY BRATTICE,
FOR
COURSES, FLY-DOORS, AND STOPPINGS,
IN THE
WORKINGS OF FIERY COLLIERIES

IS LEVER DESIRES to INFORM the OWNERS and MANAGERS of COLLIERIES in all parts of the kingdom that THEY CAN LIE at a DAY'S NOTICE with a STOCK of AIR-PROOF BRATTICE CLOTH of ANY WIDTH, and in VARIOUS QUALITIES, from SIXPENCE per YARD.

LEVER, is now USED for the PURPOSE of VENTILATION in SINKING and EXPLORING DRIFTS. This TUBING is AIR-PROOF and WATER-PROOF, and can be made any size, from 6 inches diameter to 8 feet diameter, in unlimited lengths.

Every tube is fitted internally with hoops, 12 inches apart, which prevent their

Prices and further information will be sent on application to

ELLIS LEVER, MANCHESTER.

by the Governments of Great Britain, Spain, Denmark, Russia, Brazil, East and West Indies.

STON'S PATENT BOILER FLUID,
FOR REMOVING AND PREVENTING
INCUSTRATION IN STEAM BOILERS, LAND AND MARINE.

P. S. EASTON AND G. SPRINGFIELD,
Patentees and Sole Manufacturers,

27, 38, and 39, WAPPING WALL, LONDON, E.C.

Their Agents in the principal towns of Great Britain and the Colonies.

ASE'S PATENT EXCAVATING MACHINERY,
SUPERSEDES the SLOW and EXPENSIVE USE of MANUAL LABOUR

IN SHAFTS, DRIVING LEVELS, TUNNELLING, &c., is guaranteed to

drive any rock of average hardness at a minimum rate of 1 fm. per diem, and

will undertake contracts for sinking shafts, driving levels, &c., at an

expenditure of time and great saving in cost.

Actions to be addressed to Mr. GEORGE T. CURRIS (sole agent), 17, Gracechurch-Street, E.C.

INT SAFETY FUSE.—The GREAT EXHIBITION PRIZE

WAS AWARDED to the MANUFACTURERS of the ORIGINAL

FUSE, BICKFORD, SMITH, DAVEY, and PRYOR, who beg to inform their Agents, Railway Contractors, and all persons engaged in Blasting Operations,

the purpose of protecting the public in the use of a genuine article, the PATENT

FUSE has now a thread brought into its centre, which, being patent right, in-

divides it from all imitations, and ensures the continuity of the gunpowder.

It is protected by a Second Patent, is manufactured by greatly improved

material, and may be had of any length and size, and adapted to every climate.

—BICKFORD, SMITH, DAVEY, and PRYOR, Tuckingmill, Cornwall.

VEY'S PATENT BLASTING POWDER,
MANUFACTURED BY DAVEY BROTHERS AND CO.,

MANCHESTER POWDER WORKS, TUCKINGMILL, CORNWALL.

BLASTING powder possesses the following advantages over every other in use:—

IT IS SLOWER and MORE PERFECT when confined in the hole, and

IT IS IMPERVIOUS to MOISTURE, PRODUCES LESS SMOKE, is LESS NOISY,

IT BURSTS at MUCH ROCK with a CHARGE OCCUPYING the LEAST SPACE, and its WEIGHT being TWENTY-TO TWENTY-FIVE PER CENT. LESS than ordinary gunpowder, a SAVING of ONE-FOURTH the COST.

Brothers and Co. beg to state that this powder is specially made for blasting,

its slow combustion is not adapted for projectiles. They would, therefore, cau-

sally not to be induced by interested parties to put it to a fallacious trial, by

all from a mortar, which is no test of its explosive force when confined.

A MINERAL TURPENTINE (No. 1)—TO VARNISH

WORKS, INDIA RUBBER MANUFACTURERS, &c.—The ASPHALTUM

(LIMITED) MANUFACTURE A SPIRIT which is an EXCELLENT

FOR VARIOUS MATERIALS EMPLOYED IN VARNISH MAKING,

RUBBER, &c. Uniform quality guaranteed.—Apply at the offices of the com-

pany, Great Winchester-street, London, E.C.

A MINERAL TURPENTINE (No. 2)—TO PAINTERS,

AND COLOURMEN, BUILDERS, CONTRACTORS, &c.—The ASPHAL-

TUM (LIMITED) MANUFACTURE A SPIRIT for PAINTING FURNI-

TURE, which is a COMPLETE SUBSTITUTE for TURPENTINE SPIRIT, and

IS CHEAPER. Mixes thoroughly with oil, turpentine, &c., and "flats"

—Apply at the offices of the company, 34, Gt. Winchester-street, London, E.C.

PARAFFIN, OR MINERAL OIL SAFETY GAUGE,

FOR the Asphaltum Company (Limited), ENABLES CONSUMERS to

PURCHASE PARAFFIN or MINERAL OIL of an EXPLOSIVE or

POSSIBLE KIND. Price, with a tin oil holder, 1s. 6d. each; forwarded by post

at 18 stamps.—Apply at the offices of the company, 34, Great Winchester- street, London, E.C.

L AND SONS, 17 and 18, CORNHILL, respectfully

invite a VISIT to their magnificient ESTABLISHMENT. The ground floor

particularly devoted to the display of CHINESE JEWELLERY, GOLD and

WATCLES, and FINE GOLD CHAINS.

EVERY PLATE DEPARTMENT is in the gallery of the building, and consists

article requisite for the table and sideboard.

Magnificent show-rooms is displayed a large and beautiful stock of ARGENT-

ATE, the manufacture of which has stood the test of 20 years' experience.

HOPE WORKS, WEST BROMWICH. (ESTABLISHED 1815.)

LONDON AGENTS.—MESSRS. R. and W. PULLING, 10, NEW BROAD STREET

MEWS, E.C.

CORNISH BORER STEEL.—Upwards of ONE HUNDRED

AND SIXTY MINES are SUPPLIED with this STEEL, and the DEMAND

for it is RAPIDLY INCREASING.—For terms, apply to R. MUSHET and Co., Forest

Steel Works, near Coleford, Gloucestershire.

CYANOGEN STEEL, CAST STEEL, SHEAR STEEL, and

IMPROVED FOREST L. BLISTER STEEL supplied to order by ROBERT

MUSHET and Co., Forest Steel Works, near Coleford, Gloucestershire.

Address to the Works, Coleford.

TO COAL OWNERS AND COKE BURNERS.

MACKWORTH'S PATENT COAL WASHER,

OR PURIFIER.—This MACHINE will EXTRACT the SHALE and ALL

HEAVY IMPURITIES from SMALL COAL at a COST of TWOPENCE PER TON.

—For particulars and references, apply to the makers, A. and T. FAY, Temple-gate Works, Bristol; or to Mr. JOS. RIDER, Basinghall-street, Leeds.

WIRE-ROPE TESTING.

PUBLIC TEST of A. J. HUTCHINGS AND CO.'S PATENT

WIRE-ROPE at LIVERPOOL, FEBRUARY 27, 1861.

[From the *Daily Post* of March 1, 1861.]

On Wednesday, the 27th of February, a series of EXPERIMENTS on WIRE-ROPE

took place at the Corporation Testing Works, King's Dock. The specimens tested were

manufactured by the well-known firm of A. J. HUTCHINGS and Co., of Millwall, London,

the Contractors to the Lords of the Admiralty and various foreign Governments, the

character of whose rope is well known in this country, as well as all parts of the

Continent. Capt. Dufraze, of H.M.S. *Hastings*, and a number of other gentlemen connected

with shipping, were present to witness the experiments, all of which were considered

highly satisfactory, and in every respect sustained the reputation of the manufacturers.

The following are the results of the experiments:—

An 8 in. rope bore 70 tons WITHOUT BREAKING.

Circumference and breaking strain.

2 1/4 2 1/4 3 3 1/2 3 3/4 4 4 1/2

10 1/2 tons 14 tons 20 tons 27 tons 29 tons 32 1/2 tons 45 1/2 tons

N.B.—The 2 1/4, 3, and 4 in. ropes were the sizes actually tested. The remaining sizes

and strains are comparative.

THE ABOVE ROPES ARE FOR COLLIERY USE.

Size. Hutchings and Co.'s wire- rope for ships' rigging.

Inches. Tested Feb. 27, 1861.

Newall and Co.'s Test of Oct. 29, 1860.

Garnock, Bibby, and Co.'s Test, Oct. 29, 1860.

2 5 tons 15 cwt.

2 1/4 11 " 14 "

3 1/2 16 " 10 "

3 1/4 22 " 8 "

3 3/4 23 " 10 "

4 20 " 10 "

4 1/2 37 " 15 "

— 7 tons 15 cwt.

— 8 tons 16 cwt.

18 " 5 "

— 26 " 10 "

N.B.—The 2, 3 1/2, and 4 in. ropes were the actual sizes tested. The remaining sizes

and strains are comparative.

The above tests certified by Mr. McDonald the Superintendent of the Corporation

Testing Works, Liverpool.

TEST OF WIRE-ROPE AT LIVERPOOL.—

The value of Messrs. Hutchings's statement, relative to a test of their manufac-

ture, will be properly estimated when it is known that the ropes were brought down from

London specially prepared for the purpose, and not taken promiscuously from their stock,

as the samples tested in October were.

The following is a summary of the results of the experiments:—

SIZE OF WIRE-ROPE TESTED.

2 1/4 in. 2 1/4 in.

10 1/2 tons 18 tons 5 cwt. 8 tons 15 cwt.

R. S. Newall and Co.'s 16 " 10 " 7 " 15 "

A. J. Hutchings and Co.'s 11 " 10 " 5 " 0 "

* Messrs. Hutchings's samples were from 1 1/2 to 3 1/2 over size.

From this it will be seen that the breaking point of Garnock, Bibby, and Co.'s ropes

was on the average 13 per cent. over the guaranteed strain, while those of Hutchings

and Co. were 30 per cent. below it.

GARNOCK, BIBBY, AND CO.,

SWAN HEMP AND WIRE-ROPE WORKS, CHAPEL STREET, LIVERPOOL.

Fiat and round wire-ropes of steel and charcoal iron for mines, inclines, &c., of first

quality, and highest standard of strength.

ASSAY OFFICE AND LABORATORIES,

29, GREAT ST. HELEN'S, and FORD ROAD, OLD FORD.

The PARTNERSHIP between MITCHELL and RICKARD having EXPIRED,

the BUSINESS will in future be CONDUCTED, as hitherto, under the PERSONAL

SUPERINTENDENCE of W. T. RICKARD, F.C.S. (Assayer of the Precious Metals,

&c., by special authority of the Chilian Government), who will pay all outstanding debts

and settle the late firm.

HALL AND WELLS, PATENTEES AND

MANUFACTURERS OF SUBMARINE TELEGRAPH CORES, CABLES,

&c.—TELEGRAPH CONDUCTORS INSULATED with INDIA RUBBER at £6 per

mile and upwards, PARTICULARLY ADAPTED for MINING PURPOSES. Further

particulars as to prior of cores, cables, &c., can be had on application at 60, Alderman-

bury, City, E.C.; and Steam Mills, Mansfield-street, Borough-road, Southwark, S.E.

